

TECHNOLOGY

REVIEW

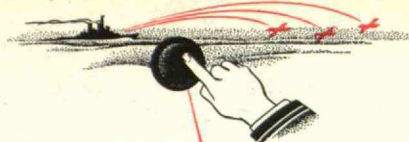
July 1954



technology review

Published by MIT

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HERE'S

HOW

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keep naval guns "ON TARGET"

... with MPB bearings

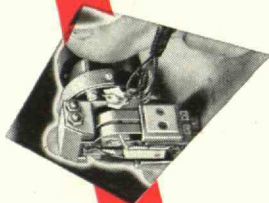
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of miniature bearing roller guides

increases relay sensitivity

and dependability



Fire control relay designed and manufactured by Ketay Manufacturing Corporation of New York.

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give top performance for

Pan-Am Southern

Lummus has built two delayed coking units for Pan-Am Southern Corporation in the past few years, one at El Dorado, Arkansas, and the other at Destrehan, Louisiana... and Pan-Am Southern is well satisfied with them.

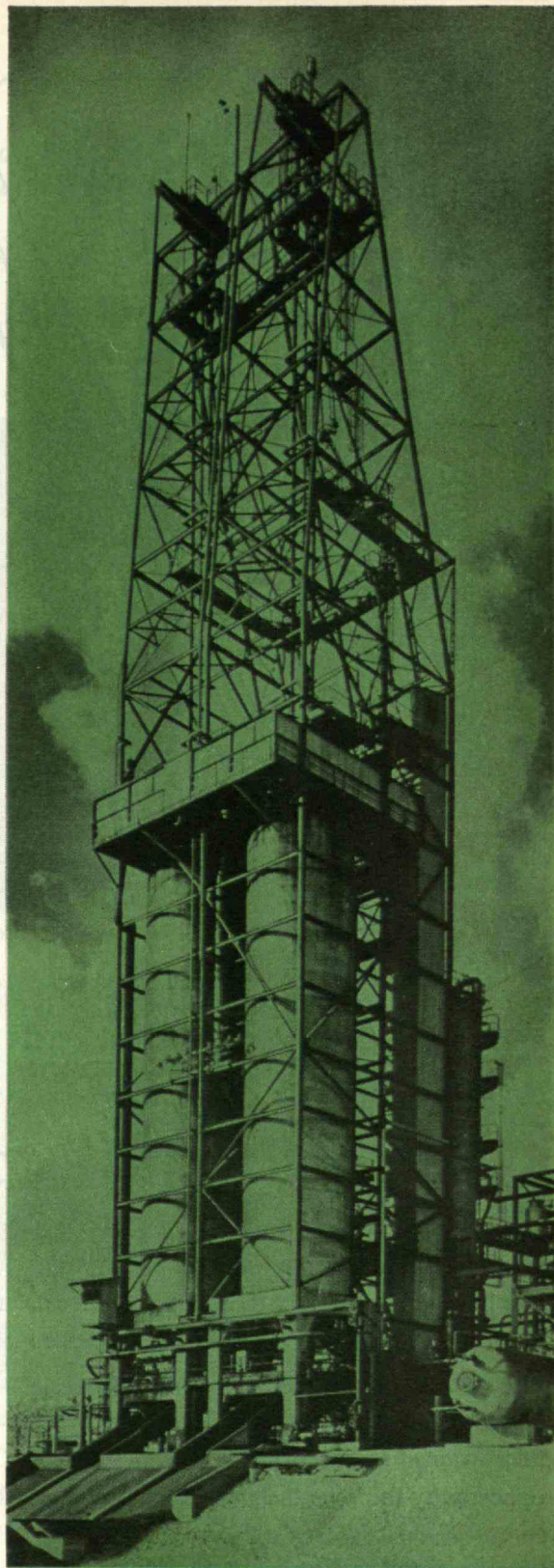
The El Dorado unit, despite a 42 day steel strike during the construction period, was completed ahead of the specified date, and for less than the guaranteed maximum cost. It was designed to charge 9,300 B/D of reduced crudes, but since coming on-stream, the daily rate has averaged 10% above the designed capacity. The unit went on-stream immediately and operated 181 out of the first 199 days after completion (a 91% service factor). In the first half of 1953, it achieved and has since averaged a 97% service factor (224 day run, 6 day down-time). On-stream maintenance and repair costs are correspondingly low.

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The new (and similar) Destrehan installation is achieving equally satisfactory records.

Lummus engineers have done an outstanding job for Pan-Am Southern. Why not consult with Lummus on your next coking project?

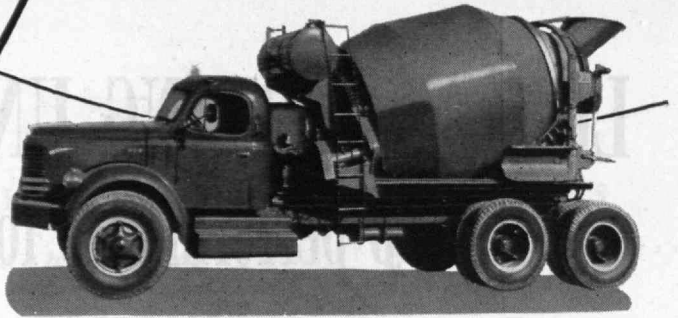
THE LUMMUS COMPANY, 385 Madison Avenue, New York 17, New York. *Engineering and Sales Offices:* New York, Houston, Montreal, London, Paris. *Sales Offices:* Chicago, Caracas. *Heat Exchanger Plant:* Honesdale, Pa. *Fabricated Piping Plant:* East Chicago, Indiana.



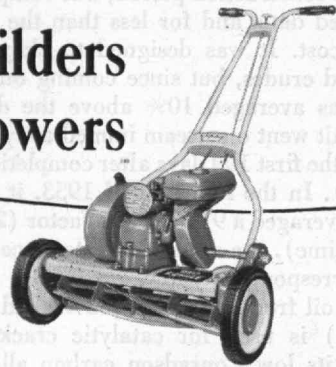
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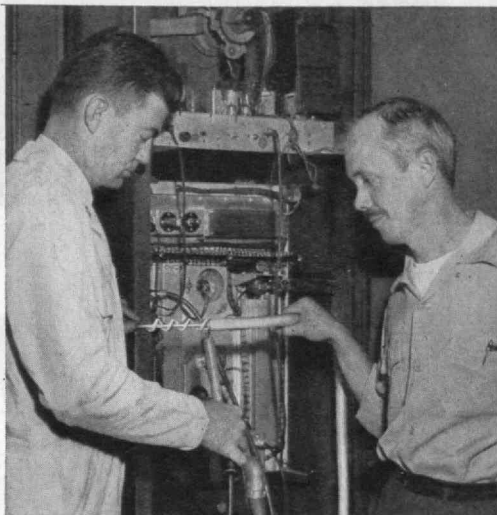
Paul H. Rosenberg

Class of 1937

Chief Engineer
Lawn Mower Division

Styroflex Coaxial Cable

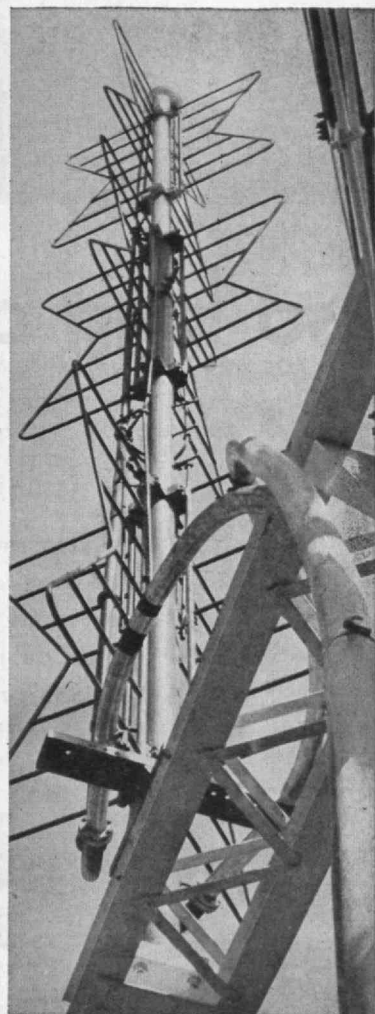
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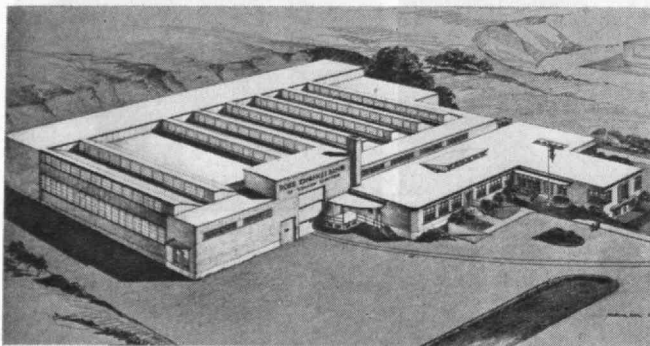
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Year after year since 1921 the business of J. O. Ross Engineering Corporation has been called upon to serve a steadily widening field for its products and services. One after another new ROSS manufacturing plants have had to be built and new ROSS branch offices opened to keep apace with the increasing volume of orders for ROSS AIR SYSTEMS throughout the world. Our fourth new plant is now under construction—our eleventh branch office already opened. Still Growing!



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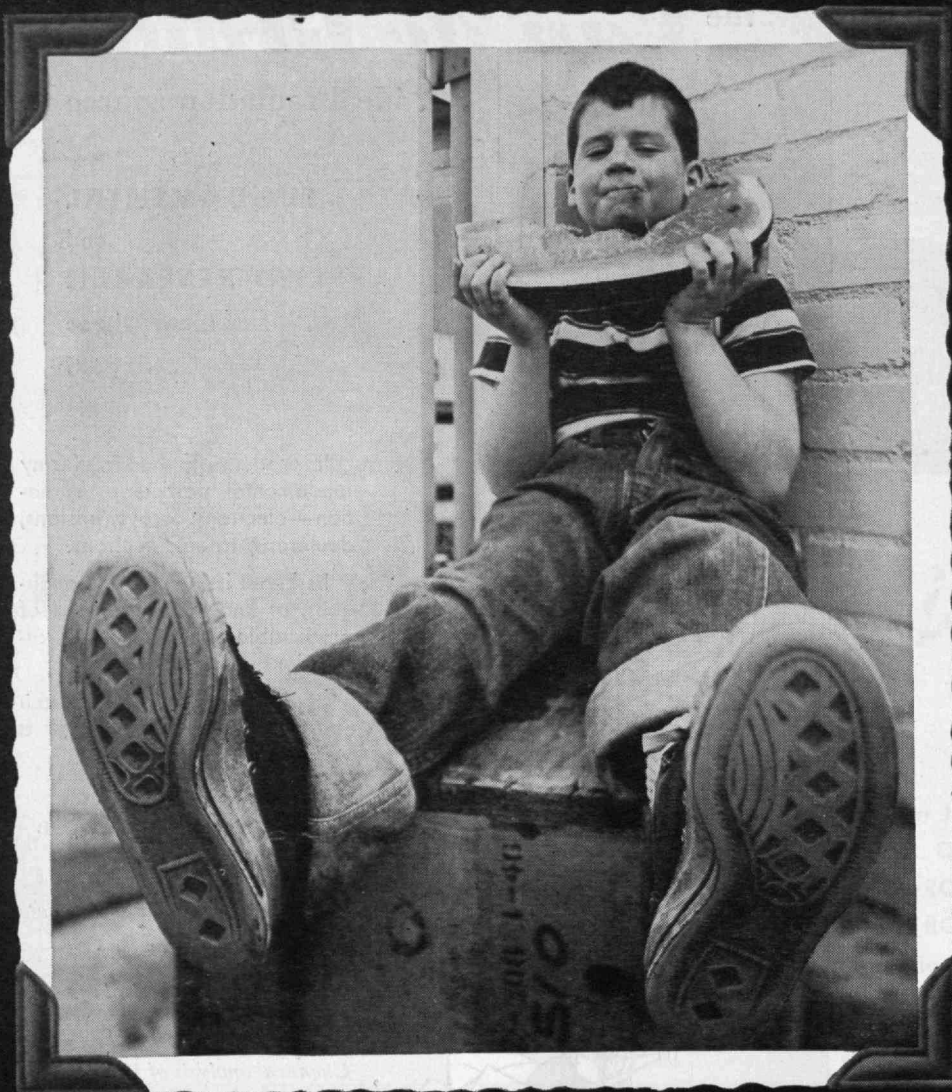
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What's wrong with this picture?

You probably have a snapshot like it in your own photograph album.

It happens when you get too close to your subject, and the camera can't handle the perspective.

In another sense, you can get an equally distorted picture of the modern corporation. For viewed too close-up, it frequently looks bigger than it is.

Take Union Oil. In 1910—when we did but a \$12,000,000 volume—we seemed much smaller. *Yet at the time this was 23% of the total petroleum business in the western states.*

In 1953 we looked much bigger because we did a whopping \$325,000,000 volume. *But this was only 13% of the petroleum business in the West.*

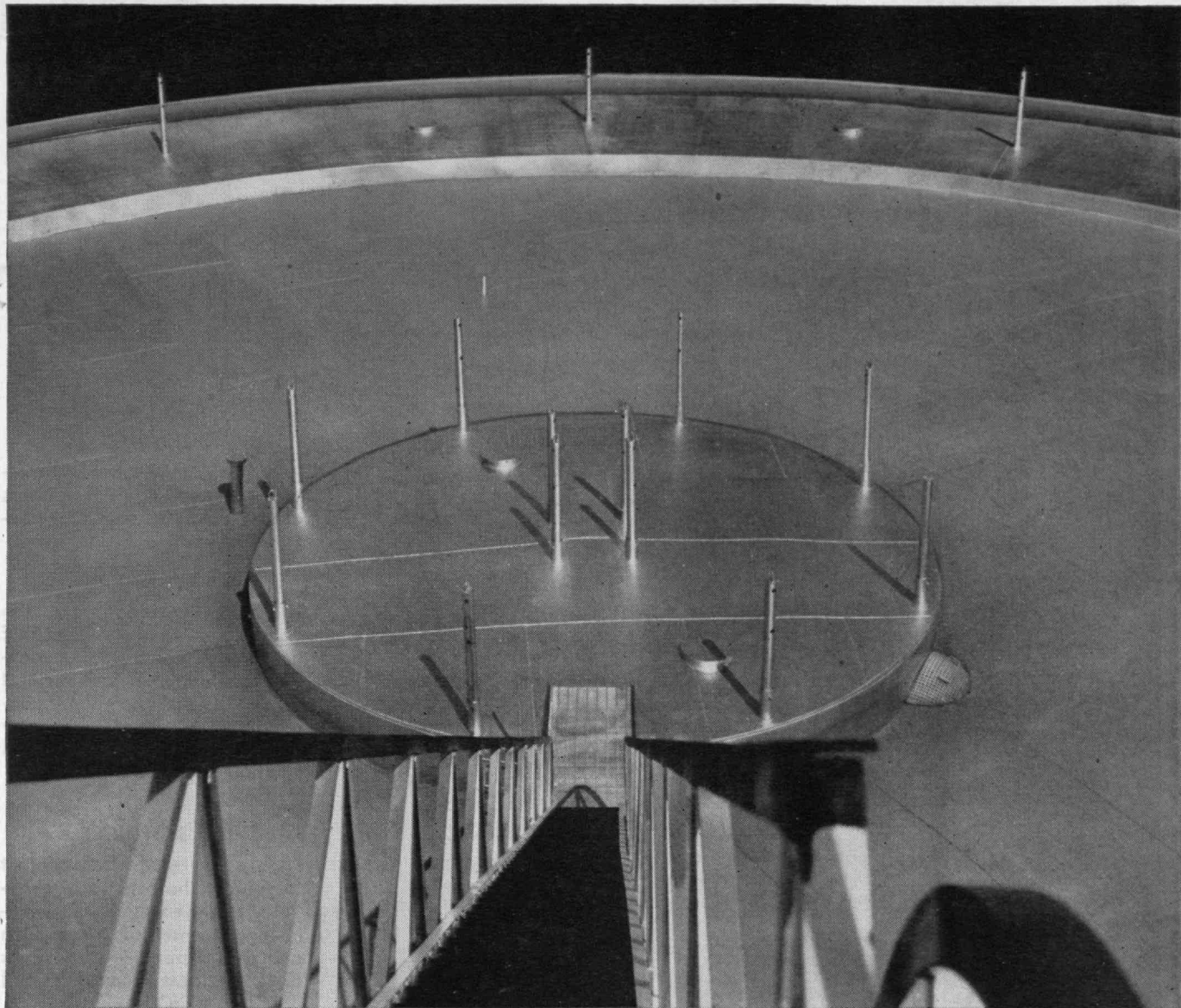
Certainly we've grown. We've *had* to grow to serve a bigger market, to meet increased competition and to satisfy more consumer needs. *But in proportion to the total business, we aren't as big as we were 44 years ago.*

Seen in perspective, the picture is clear: Union Oil, like so many so-called "big" companies, is really getting smaller all the time!

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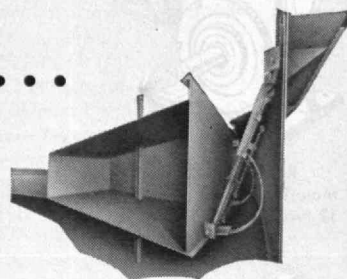


You are looking down...

into a Graver Center-Weighted "Floater." It's a well-built tank especially designed to conserve volatile vapors by means of Graver's own "Vapor-Stop" Seal—the improved seal which maintains firm closure between the floating roof and the shell. This patented Graver seal mechanism is an integral part of all Graver Float-

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From time to time you may expect similar technological improvements from Graver...where increasing emphasis will continue to be placed on research and development.



Graver's "Vapor-Stop" Seal!

The seal is free and limber, yet continues to close the gap and prevent loss of vapors. It is successful on both converted tank shells and new construction.

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...a conservation design to fit every need

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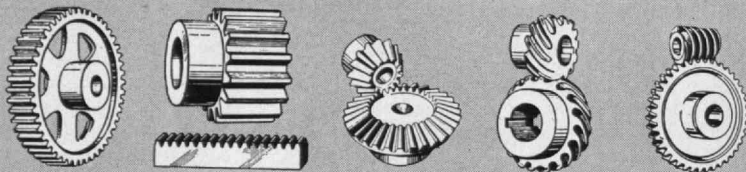
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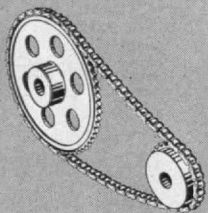
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PRODUCTS

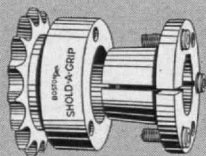
For new assemblies—for all maintenance



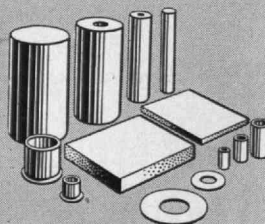
STOCK GEARS: Spur • Racks • Miter • Bevel • Helical • Worms and Worm Gears



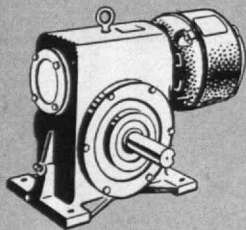
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For drives ranging
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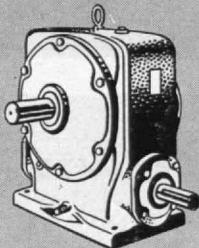
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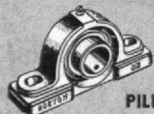
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oil-impregnated
BEARINGS



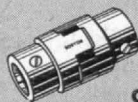
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Motorized Speed Reducers
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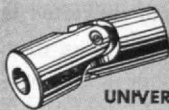
REDUCTORS
Standardized Speed Reducers
.005 hp to 36 hp



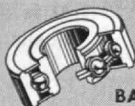
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UNIVERSAL JOINTS



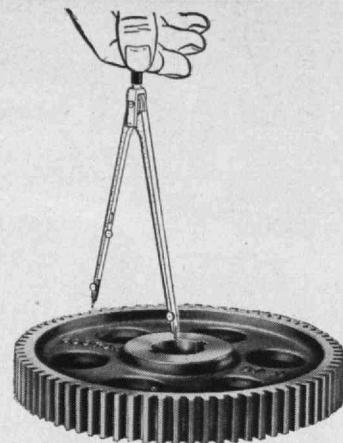
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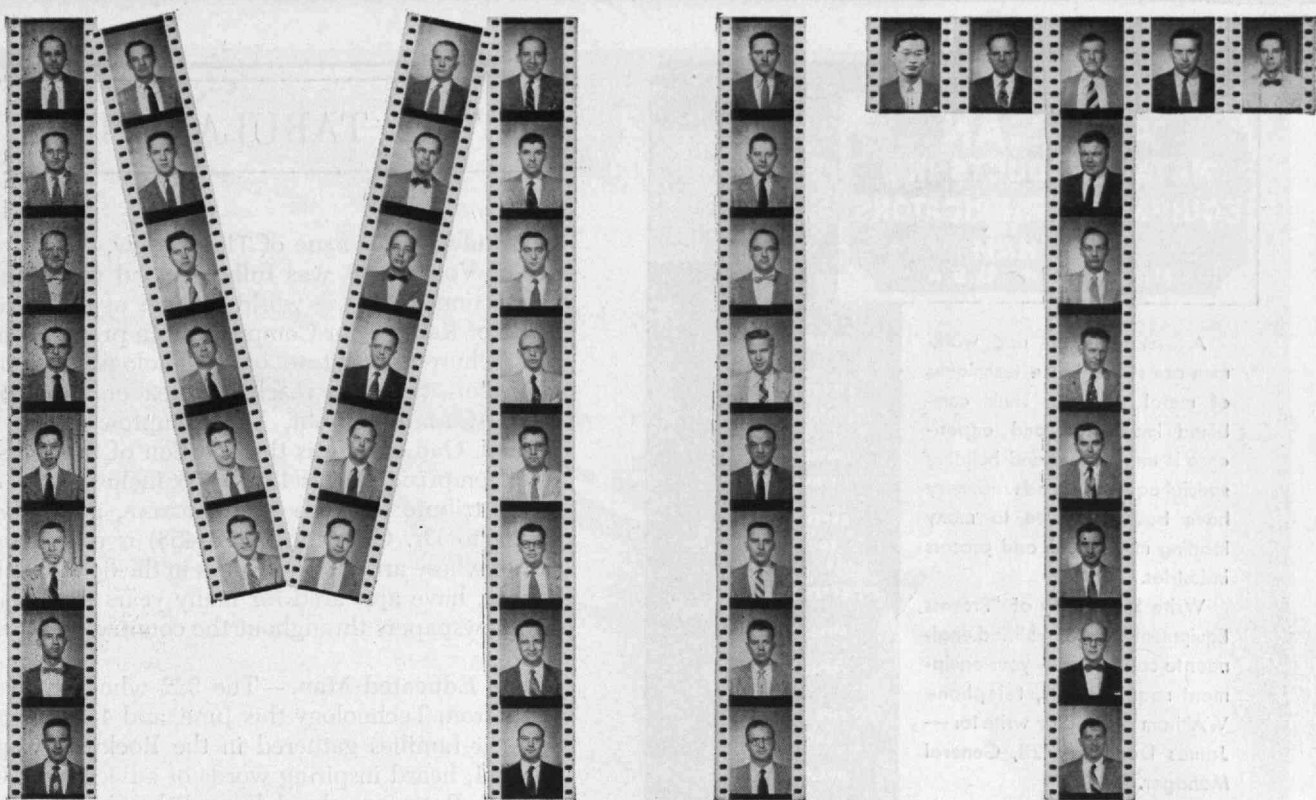
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These MIT alumni at The Glenn L. Martin Company—representing 23 graduating classes—are applying the power of 568 man-years of active engineering practice to some of the most advanced creative engineering problems in the whole new world of spaceborne systems development.

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1	9	15	21	29	37	38	39	40	41
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1	George C. Pfaff Jr. '39
2	Welcome W. Bender '38
3	Sears Williams '39
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5	Sheung S. Chin '46
6	Lemuel W. Mason Jr. '48
7	H. C. Johnson '49
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15	Michael E. Scalia '40
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17	George M. Bunker '31
18	G. S. Trimble '36
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22	R. M. Davis '51
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32	W. Richard Kolk '51
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44	Eliot B. Bradford '34
45	Kenneth L. Porter '51
46	Franklyn N. Greene '51
47	Chauncey F. Bell '38
48	W. B. Bergen '37

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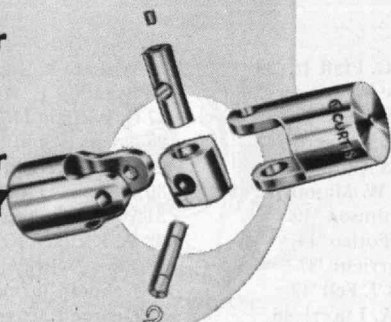
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THE TABULAR VIEW

Tribute. — This issue of The Review, the last number of Volume 56, was fully planned and well into production when the world learned of the untimely death of Karl Taylor Compton, ninth president of the Massachusetts Institute of Technology. Except for two items, this issue reaches its readers as originally planned as, no doubt, Dr. Compton would have wished. One change is the addition of the four-page form comprising pages 452 to 455, inclusive; the other is the tribute on page 458. DAGMAR, author of the epos to Dr. Compton (page 458) is a professional writer whose articles and essays in the field of cultural history, have appeared for many years in magazines and newspapers throughout the country.

The Educated Man. — The 922 who received degrees from Technology this June, and 4,000 members of their families gathered in the Rockwell Cage on June 11, heard inspiring words of advice from CLARENCE B. RANDALL who delivered the Commencement Address. Former president and now Chairman of the Board of the Inland Steel Company, Dr. Randall reminded the graduates of the need to continue their education throughout their entire life. In his address entitled, "The Educated Man," which The Review is pleased to bring to its readers (page 461), Dr. Randall spoke eloquently of the obligations of educated persons to serve their community and the nation, intelligently and unselfishly. Born in Newark Valley in 1891, Dr. Randall attended Harvard University where he received the A.B. degree in 1912 and the LL. B. degree in 1915. For the next two years he practiced law in Ishpeming, Mich., served in France during World War I as captain, and resumed his law practice between 1919 and 1925. In 1925 Dr. Randall joined the Inland Steel Company as assistant vice-president, and rose to top position in that firm in the past quarter century. He is recipient of nine honorary doctorates, is active in many civic and philanthropic organizations, has been honored with numerous awards, and is author of several books and many magazine articles.

Our Greatest Resource. — Speaking at the open air luncheon on Alumni Day, RICHARD L. BOWDITCH, '23, reminded his listeners that the American way of life imposes obligations in addition to offering advantages of freedom. Under the title, "Our Greatest Resource" Mr. Bowditch recalled that personal liberty depends upon respect for truth and decency, and makes demands of personal sacrifice upon all of us. The Review is happy to publish this very able address (page 463) as part of the major addresses of Alumni Day. Mr. Bowditch, who has just completed his term as President of the United States Chamber of Commerce, brings to his address, deep and sympathetic understanding of the nation's educational needs in its task of ably administering to the youth of America — our greatest resource.

(Concluded on page 440)



BEYOND THE HORIZON....

Progress in reaction-motor propulsion becomes possible only as the metallurgist supplies new alloys to withstand the stresses, temperatures, and corrosive attack developed by new rocket fuels.

Molybdenum additions to many alloys are known to improve strength at high temperatures. For this reason Molybdenum will be used more and more in the reaction motors of the future.

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A. F. Coleman '31	W. A. Rote '42
J. E. Egbert '44	P. B. Samuelson '32
J. R. Gray '40	G. J. Schwartz '42
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Write C. F. Taylor, Personnel Mgr.

THE TABULAR VIEW

(Concluded from page 438)

The Engineer in Management. — An assessment of the qualities of engineers as managers was given by **WILLIAM B. GIVEN**, '08 who was chosen to deliver the Alumni Day Banquet address, which is reproduced on page 465. Mr. Given was educated at Sheffield Scientific School, Yale University, as well as at M.I.T. His entire business career has been spent with the American Brake Shoe Company, of which he was president and is now Chairman of the Board. He is especially noted for his progressive concepts of management, and for his encouragement of people to reach out for new responsibilities.

Next 10 Years. — The Alumni Day Symposium was conducted by three well-known Technology Alumni; Vannevar Bush, '16, President of the Carnegie Institution of Washington; Admiral Edward L. Cochrane, '20, Vice-president of M.I.T., and Dean E. P. Brooks, '17, Head of the School for Industrial Management. The Review is happy to publish (page 467) its report on these addresses, as well as remarks by Karl T. Compton.

Contents page photograph, page 451 of this issue, shows the stone bridge across Muddy River, and leading from Boylston Street into the Fenway.

The Review is not published during the summer months following July. This issue, therefore, concludes Volume 56. Number 1 of Volume 57 will be published on October 27 and dated November. Readers who bind their copies are reminded that if they possess nine issues of Volume 56, their files are complete. An index to the volume will be ready on September 15 and will be supplied post free upon request.

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SILENT HOIST FORK LIFTTRUK available in 5, 7½, 10, 15 ton capacities, are noted for their superb mobility, long continuous service, and low upkeep.

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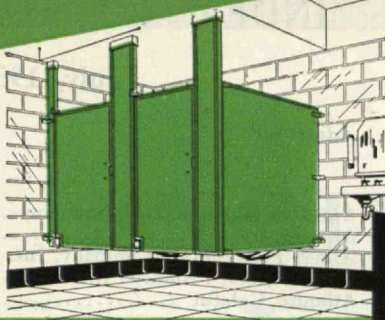
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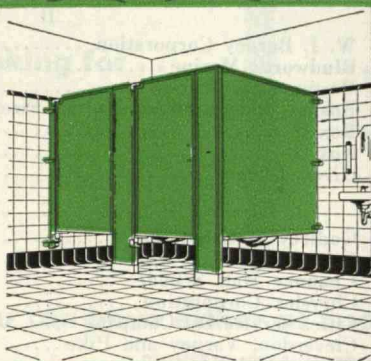
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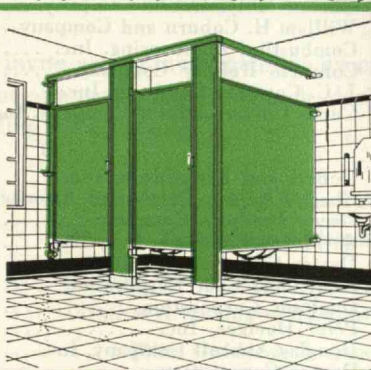
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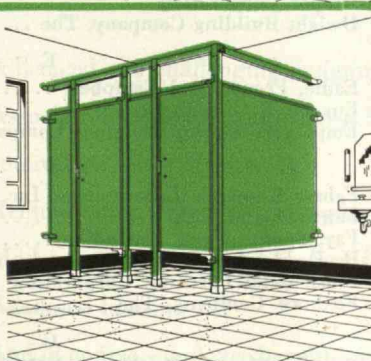
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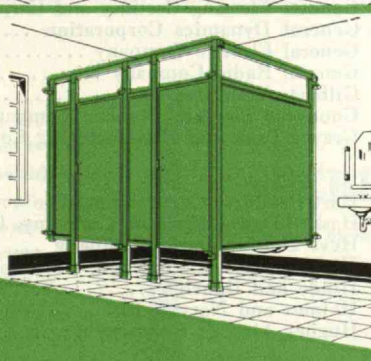
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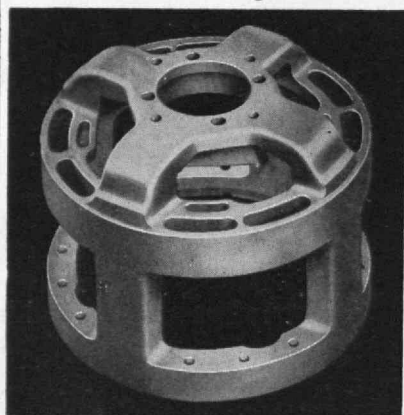
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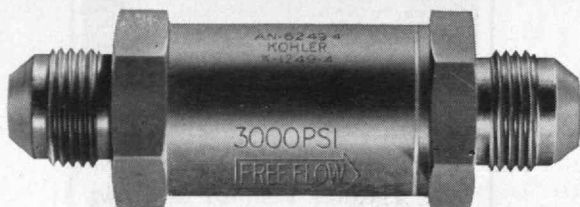


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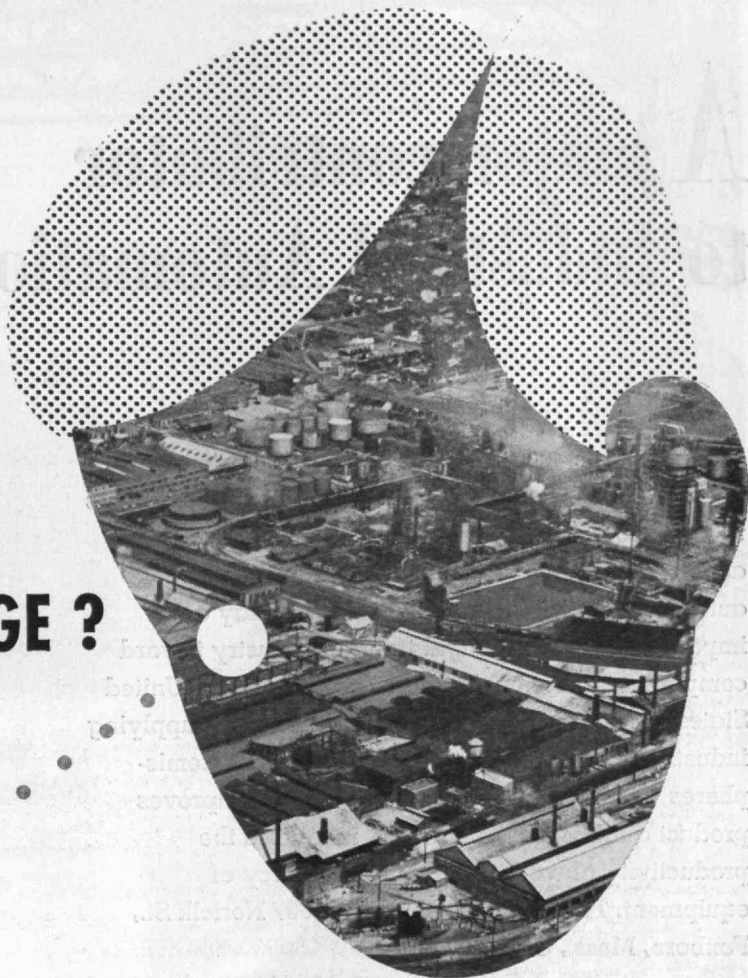
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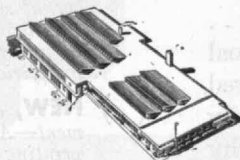
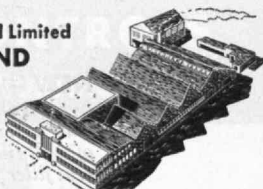
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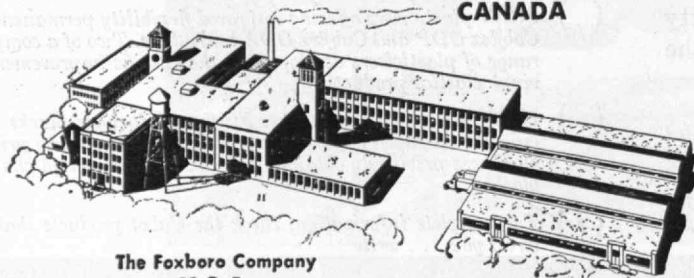
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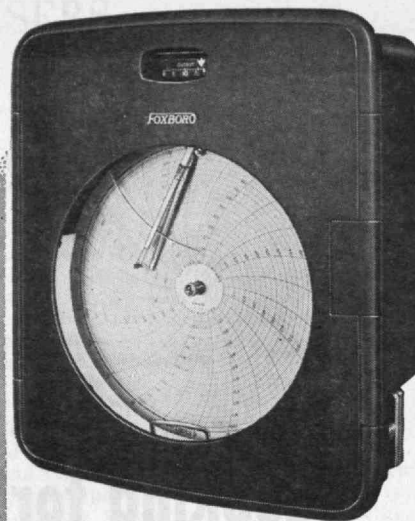
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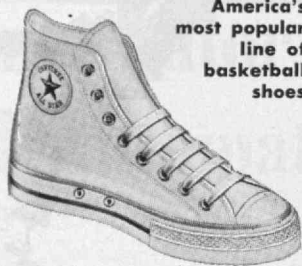
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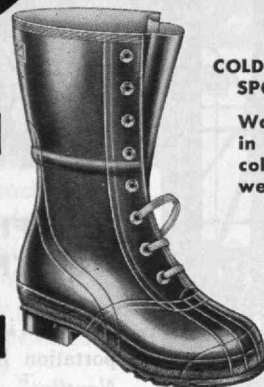
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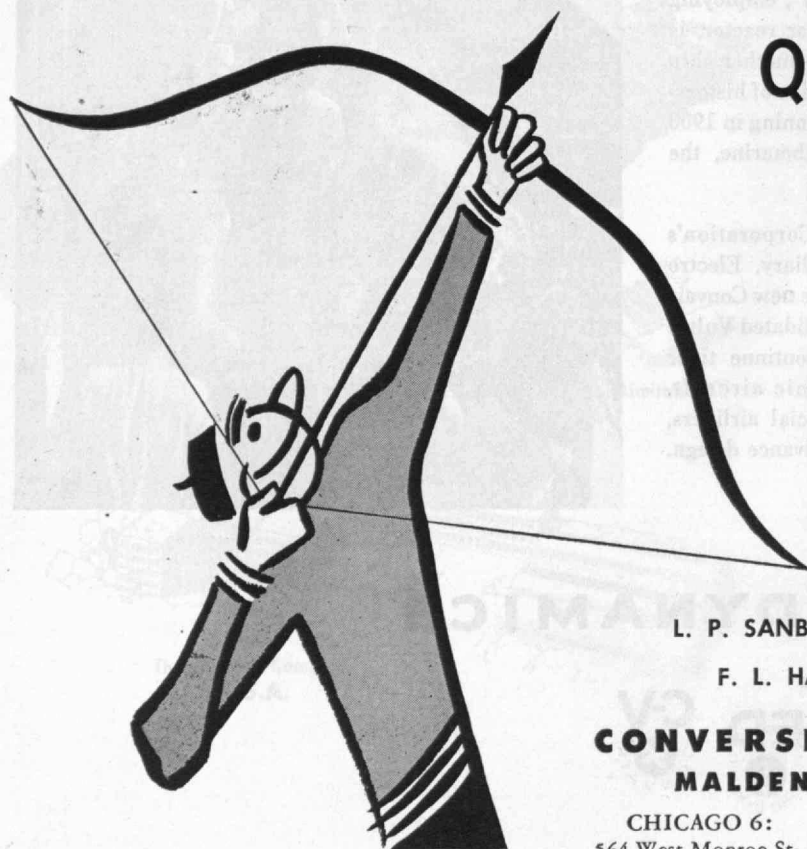


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GOOD  **YEAR**

The solidly built stone structure used as the contents page illustration in the June issue of *The Review* is the officers' and service mens' house in Boston Common, near Tremont and Boylston Streets.



Raymond E. Hanson

How Well Do You Know
Boston?

Many an Alumnus must have visited this spot on a spring or summer afternoon. Can you identify this recreational area? If not, see page 440.

THE TECHNOLOGY REVIEW

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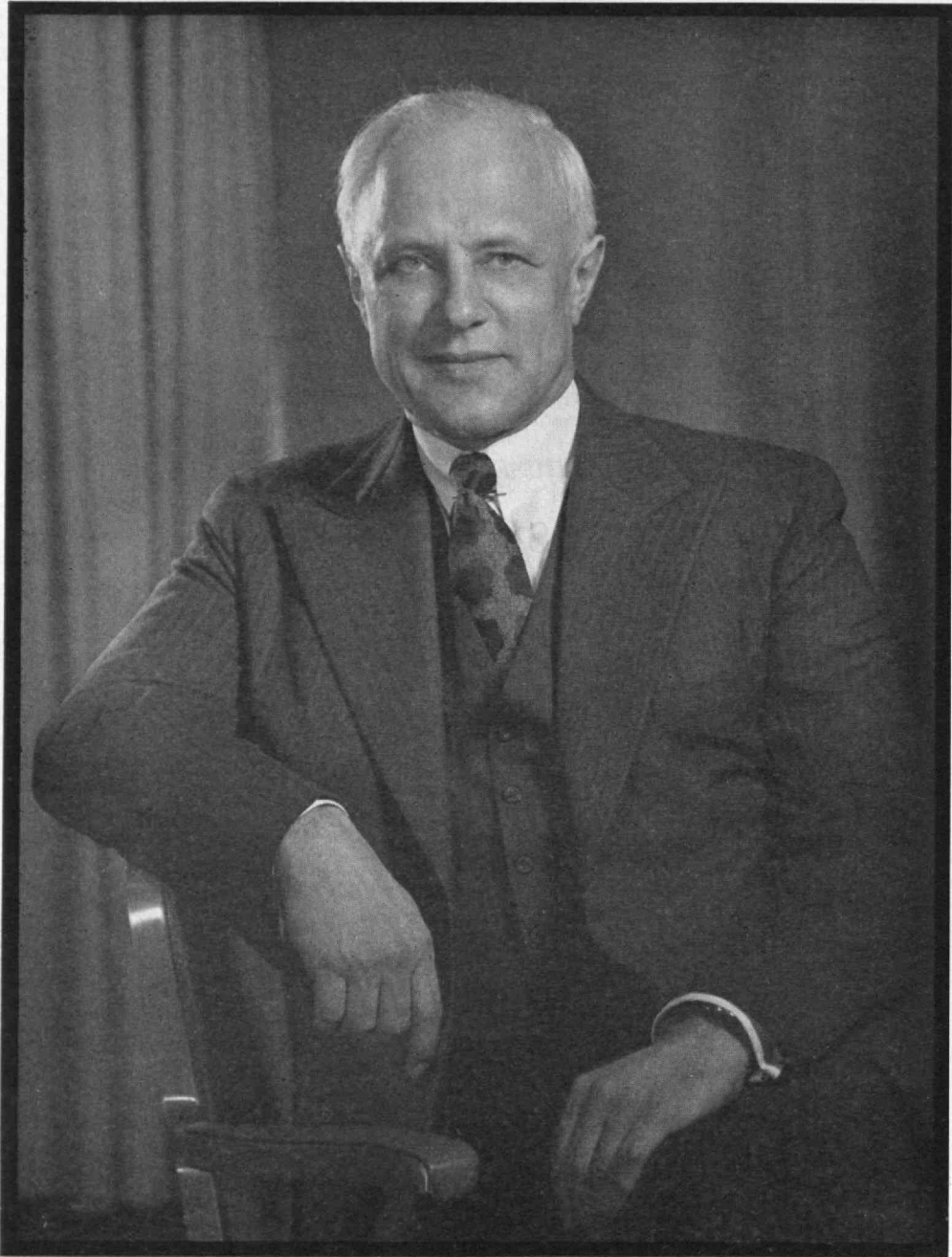
EDITED AT THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY

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Published monthly from November to July inclusive on the twenty-seventh of the month preceding the date of issue, at 50 cents a copy. Annual subscription, \$3.50; Canadian and foreign subscription, \$4.00. Published for the Alumni Association of the M.I.T.: Horatio L. Bond, President; H. E. Lobdell, Executive Vice-president; Dwight C. Arnold, Richard S. Morse, Vice-presidents. Donald P. Severance, Secretary-Treasurer. Published at Hildreth Press, Inc., Bristol, Conn. Editorial Office, Room 1-281, Massachusetts Institute of Technology, Cambridge 39, Mass. Entered as second-class mail matter at the Post Office at Bristol, Conn. Copyrighted, 1954, by the Alumni Association of the Massachusetts Institute of Technology. Three weeks must be allowed to effect change of address, for which both old and new addresses should be given.



Karl T. Compton

A great and gifted leader in science, education and public life, Karl Compton was also the most unselfish and princely man I have ever known. Through leadership in many areas of public affairs and through statesmanship that he showed in putting science to work for the welfare of the nation, he made a lasting contribution to American life. We who have known him as President of M.I.T., know that he was one of its greatest presidents and more than any man responsible for the institution which we know today.

—James R. Killian, Jr.

Karl Taylor Compton

September 14, 1887

Wooster, Ohio

IN the passing of Karl Taylor Compton, who died suddenly in the Cornell Medical Center in New York on June 22, the Massachusetts Institute of Technology has lost an outstanding physicist, educator, administrator, and humanitarian; Technology Alumni, students, Faculty, and Staff have lost a highly respected and most beloved friend; and the nation has lost one of its most able, patriotic, and public-spirited citizens.

In his customary gracious manner, Dr. Compton took his usual active and leading role in the events of the Institute's 88th commencement exercises on June 11, the reunion of the Class of 1929 on June 12, the dinner with Honorary Secretaries on June 13, and the activities of Alumni Day on June 14, as the following pages of this issue of *The Review* amply testify. Those who listened to his words of hope and encouragement suspected no trace of impending misfortune; they saw only the buoyant spirit, the noble simplicity, the disarming smile, and the friendly co-operation that has always characterized Dr. Compton. Following Alumni Day, Dr. Compton made a visit to New York where, on June 16, he was stricken with a heart attack and died five days later.

It is difficult to realize that Dr. Compton's gracious smile will no longer be seen in our midst. He represented everything for which the Massachusetts Institute of Technology stands; in fact, for many of us, he *was* M.I.T. The many tributes that have been paid his memory add naught to his many outstanding achievements, but of the love and respect which he commanded in all corners of the world, they speak volumes.

Funeral rites were conducted privately, but for the many who wished to pay final tribute to Dr. Compton, a memorial service was held on June 25* in the Great Court, where, on June 6, 1930, Karl Taylor Compton was inaugurated as the ninth president of Technology. Earlier in the morning of June 25, Dr. Compton's family, accompanied by Dr. and Mrs. James R. Killian, Jr., attended a private service in the Chapel of Mount Vernon Church. Following that service, which was conducted by Dr. Karl Heath Kopf, formerly minister of Mount Vernon Church, members of the family returned to M.I.T. where, in their presence, Dr. Compton's ashes were scattered in the Great Court.

At 11 A.M. simple and impressive memorial services were conducted in the Great Court within view of the office where, for nearly a quarter of a century, Dr. Compton served as beloved leader of the Institute. The service was attended by hundreds of Technology Alumni, as well as by students and members of the

* Nearly all of the student body and a large portion of the Faculty had already left Cambridge at the end of the school year. A memorial service for this group will be held after resumption of classes in the Fall.

June 22, 1954

New York, N. Y.

Faculty and Staff of the Institute. Also in the congregation were leaders in science and education, representatives of business and industry, of state and national governments, and of the many learned societies of which Dr. Compton had been a member. Among those who occupied the section reserved for honorary attendants were members of the Institute Corporation, the Administrative and Faculty Councils as well as employees who have served at M.I.T. for more than 25 years. More than 25 graduate and undergraduate students served as honorary ushers.

Arthur Fiedler conducted 40 members of the string section of the Boston Symphony Orchestra during the services which opened with Bach's "Jesu Joy of Man's Desiring," followed by Handel's "Aria from Concerto Grosso, Opus 6, No. 12." Dr. Theodore Parker Ferris, Pastor of Trinity Church, a member of the M.I.T. Corporation, and for many years a personal friend of Dr. Compton, read from the Scriptures, and the reading was followed by Bach's "Adagio." Then, in warm, simple, heartfelt terms, Dr. Ferris spoke of Dr. Compton's many fine qualities, and the rare manner in which Dr. Compton was able to combine religious faith and scientific knowledge. Said Dr. Ferris, "As a physicist, educator, administrator and servant of the nation, no man has made a larger or better contribution to the progress of modern science than he. And all this without losing the human values which alone make the scientific understanding of life worthwhile."

Finally, with the congregation standing, Mr. Fiedler conducted Bach's "Chorale from St. Matthew Passion." Following the final prayer, as the American flag in the Great Court was raised momentarily (to the masthead) and then slowly lowered to half-staff, a single trumpet sounded "Taps."

Of the many eulogies and tributes which were made upon the announcement of Dr. Compton's death, one of the first was made on the evening of June 23, in a broadcast from WGBH, the station of the Lowell Institute Co-operative Broadcasting Council which Dr. Compton helped bring into being early in 1947. Ralph Lowell, trustee of the Lowell Institute and a member of the M.I.T. Corporation spoke briefly but with great understanding of the work Dr. Compton had carried on. President Killian then broadcast the following tribute:

It would be impossible for me to speak of Karl Taylor Compton in the cold language of a factual biographical sketch. I worked for him and with him for nearly a quarter of a century and because of the generous opportunities which he gave to me, I came to know his ways, his mind, and his luminous personality. The response of his friends, his associates, and even those casually acquainted with him, to Karl Compton's personality was invariably one of spontaneous pleasure in a personality completely free of guile, sensitive in perception, emanating goodness and

wisdom, and always generous and benevolent in human relations. The comments that men made about him reveal the characteristic response of people to his brilliance, his charm and his humanity. One person would say that Karl Compton was the most princely man he had ever known, another that he was unselfish almost to a fault, another that he was kind and courteous to "the small people." Others expressed amazement at how indefatigable he seemed to be; others remarked how he personified simplicity in its finest sense, and what an extraordinary capacity he had to achieve teamwork among his associates and to make it seem little and unnecessary for people to indulge in bickering or trivial differences. In a way which he himself was probably unaware, he had a wondrous gift for calling forth the best in other people and for engendering a spirit of good will among all coming within his influence.

Aside from these great qualities of his as a superlative human being, Karl Compton's achievements fall mainly in three categories — his work as a scientist, as an educator, and as public servant. Let me say a brief word about each of these.

As a physicist, he published a long series of papers which represent brilliant contributions to many aspects of physics. His achievements in research as well as a teacher led him into many posts representing the great esteem felt for him by fellow scientists. Before becoming President of M.I.T., he was head of the Department of Physics at Princeton, he had been head of the American Physical Society, and he was the creator of the American Institute of Physics. He came to be a spokesman for science and scientists and lived to see many of his ideas come to happy fruition, particularly his advocacy of putting science to work for the defense and welfare of the nation.

As an educator, he first gained fame as a skilled teacher. His accomplishments in classroom and laboratory are still something of a legend at institutions such as Reed College in Oregon, where he obtained his first full-time teaching post, and later at Princeton. He had the capacity to set young men's minds on fire, and a great stream of men who worked under him as graduate students have distinguished themselves in American science. As President of M.I.T. he showed great capacity as an educational administrator;

The last photograph depicting Dr. Compton in an official act on behalf of the Institute shows him graciously accepting the gift of the Class of 1929 at the Alumni Day banquet on June 14. Gift presentation is being made by C. Brigham Allen, '29, as Horatio L. Bond, '23, and Vannevar Bush, '16. look on.



and under his presidency M.I.T., which had been a well-known school of engineering, when he took over, became a great institute of technology. He added to its program a flourishing school of science, a greatly extended graduate program and a humane and liberal spirit. In the annals of M.I.T. I think it clear that he will stand as one of its greatest presidents, one who brought new breadth and new depth to the teaching of science, engineering, management, and other fields. Few educational administrators who have made great advances in institutional development have ever accomplished so much with so little friction and so much enthusiasm as he.

His record as a public servant is too extensive to be detailed here, but always he was motivated by a deep conviction that a man has an obligation to serve his country without expectation of personal gain. Before the War, as chairman of a science board appointed by the President, he made a notable contribution by calling attention to opportunities whereby science can serve government and lead to the betterment of our economy and our health. With great success he carried into application the slogan "put science to work." During the War, as a member of the National Defense Research Committee, he joined a group of brilliant men, including Vannevar Bush and James B. Conant, in directing a military research program unparalleled in scope and in achievement. His specific responsibility was the famous Division 14 of the Office of Scientific Research and Development, which had the responsibility for our American radar development, but his counsel and his administrative direction made themselves felt in many other fields. So great was his contribution that his Medal of Merit citation included the extraordinary statement that he personally was responsible for shortening the duration of the War. During the early stages of the War, he was a member of the famous Baruch Committee that brought order out of our chaotic rubber situation and devised a program which was of fundamental importance in our winning the War. After World War II, he was chairman of the evaluation committee which reported on the first atomic test in the Pacific, and just before the end of the War he had gone to the Philippines to direct the Office of Field Service of the O.S.R.D. to assist our military operations in the far Pacific. When Japan surrendered, he was one of the first civilians to reach Japan and he led there a survey of the status of Japanese military science. Later, in 1948, he was called to succeed Vannevar Bush as Chairman of the Research and Development Board of the National Defense Establishment. Recently he had been asked by the Governors of the New England States to study the possibilities of developing and applying the fruits of atomic energy in New England.

Along with all of these manifold duties, he served numerous foundations and other institutions as trustee and director, including the Ford Foundation, the Rockefeller, and Sloan Foundations, and the Sloan-Kettering Institute. He also was a director of many companies which sought his services as a representative of the public.

However great these many contributions were, I think they all were secondary to his influence as a human being and to the nobility which characterized every aspect of his career and his day-to-day living. He was one of the finest products of our American civilization and one whose contributions to this civilization can give us hope about our future.

In his death much is lost but much abides. His life "a little holding lent to do a mighty labor," has made this country a greater and nobler place for all of us.

Instead of despair, we can hope for progress; instead of ugliness and evil, we can hope for more comeliness and virtue; instead of the darkness of ignorance, we can hope for new enlightenment. All of this was implicit in Karl Compton's achievements and in his influence.

To the world at large, Dr. Compton will probably be remembered most as a distinguished scientist, as president of M.I.T. from 1930 to 1949, and thereafter as Chairman of the Corporation, and for the many services which he rendered to the nation. The responsibilities which he carried, and the services he rendered in any single one of these capacities, would have been sufficient for any ordinary man. But Dr. Compton carried on all of them graciously and with unusual effectiveness. He was able to enjoy few leisure hours as a private citizen, for his life was dedicated to the nation and to the Institute.

Yet it will be for his human qualities that those who were privileged to know him personally will remember him best. He could be — and was — at home with persons in all stations and ranks in life, and he was quick to recognize and praise the virtues he saw in others. Perhaps it was this quality, more than any other, which endeared Dr. Compton to his associates.

His acknowledgement of the efforts of others was no better revealed than during the Mid-Century Convocation when, in speaking of his own administration he remarked:

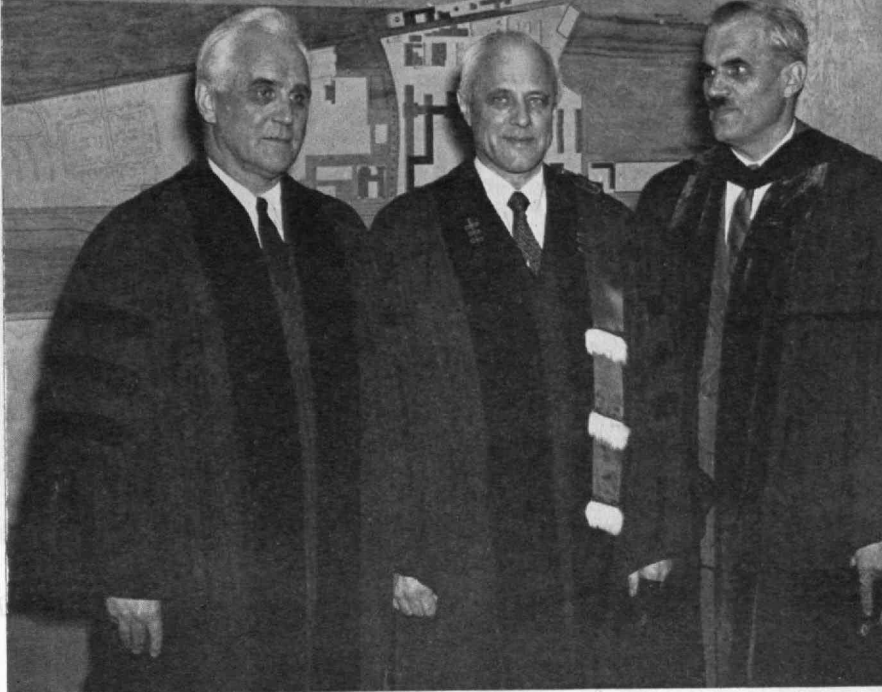
The intervening years have been full of emergencies and problems; first the great depression; then the slow recovery; then the great World War; then the period of reconversion; and now the threshold of a new era. Through these vicissitudes the institution has weathered its difficulties and has exploited its opportunities and has come through stronger than ever before.

I am convinced that this successful record is due to several factors. One of these is the complete devotion of the administration and its staff in their respective duties. Another is the unswerving decision to place service to the public ahead of personal or institutional gain. Above all, there has been clearly proven the essential value of the Institute's purpose and performance.

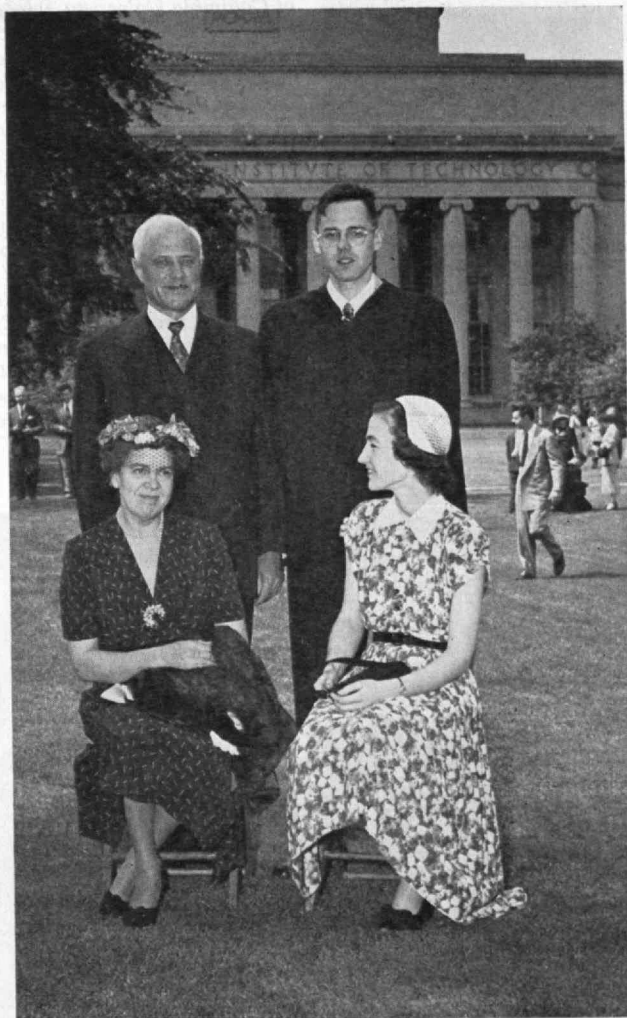
I shall ever be grateful for having had the opportunity to be associated with such fine colleagues in such challenging endeavor as has marked the years since 1930. The personal associations and achievements have been rich rewards for all work and worry.

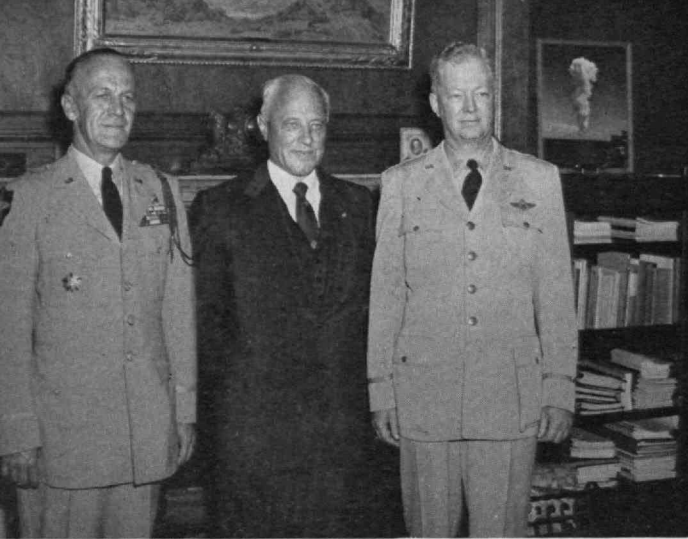
His willingness to co-operate can be no better revealed than by citing an incident that occurred during the baccalaureate service on June 10. When asked if photographs might be made of him and some of the other distinguished scholars taking part in the services, he remarked quite simply, "Well, I'm here to take orders; all you have to do is let me know what you want." Such sincere, wholehearted willingness to do what might become necessary was a great stimulus to his colleagues. But no instance is recalled in which Dr. Compton issued orders; he was able to bring out the best in his associates by mere suggestions.

Karl Taylor Compton leaves a great legacy, for all who knew him were enriched by that experience. The men he trained, as well as the Institute of today, stand as a monument to his inspiring life.



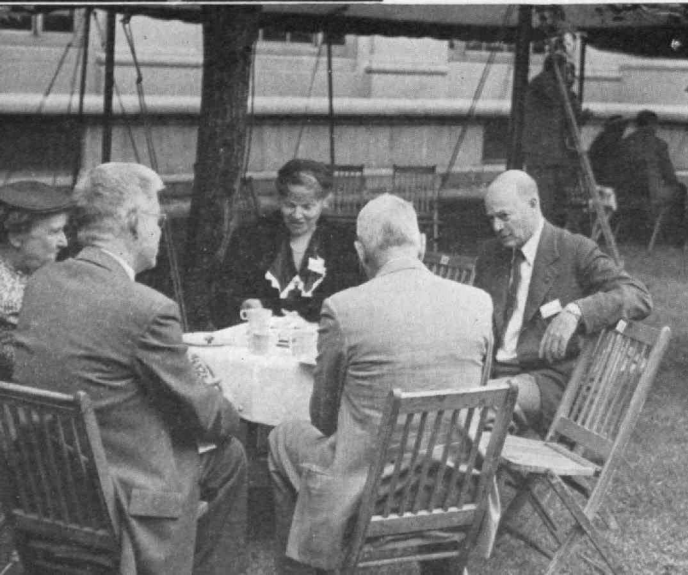
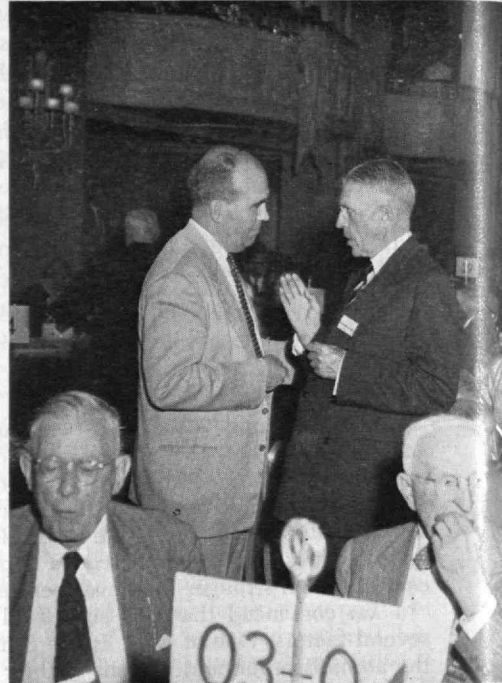
All three Compton brothers took part in M.I.T.'s Mid-Century Convocation in May, 1949. Left to right are Wilson Martindale Compton, then President of Washington State College, Karl Taylor Compton, President of M.I.T., and Nobel Prize Winner, Arthur Holly Compton, Chancellor of Washington University. On the occasion of the graduation from M.I.T. of Dr. Compton's son, the photograph, below, was made in June, 1951, showing Dr. and Mrs. Compton, and Mr. and Mrs. Charles Arthur Compton.





Commencement and Alumni Day Activities in Brief

Kaleidoscopic events of Commencement and Alumni Day activities are shown in these selected views of events of the end of the school year. (Upper left) Brigadier General Ralph W. Zwicker, Commanding General, Camp Kilmer, Dr. Karl T. Compton, Chairman of the M.I.T. Corporation, and Brigadier General Kurt M. Landon, Chief of Staff, Air Research and Development Command, in Dr. Compton's office prior to R.O.T.C. commissioning exercises. (Upper right) Taking part in the baccalaureate service were (left to right) President Killian, '26, Professor Gilbert Highet, of Columbia University, who delivered the baccalaureate address, Dr. Karl T. Compton, and Dean of Students, E. Francis Bowditch. (Left) Leading the singing at the Alumni Day Banquet, as he has done many times before, was Orville B. Dennison, '11. (Right) In serious discussion at the Alumni Day banquet are Ralph T. Jope, '28, (left) and Senator Thomas C. Desmond, '09, of New York. (Lower left) Nathaniel McL. Sage '13, (left, with glasses) and Jerome C. Hunsaker, '12, Professor Emeritus (right with wrist watch) gather a congenial group at the Alumni Day luncheon in Du Pont Court. (Lower right) President and Mrs. Killian, Dean and Mrs. Bowditch and Dean L. Jacoby, President of the Class of 1954, receiving guests after the Commencement Day Luncheon in the Great Court. Additional photographs, as well as a complete report of the events of the 1954 Commencement and Alumni Day activities, are given beginning on page 471.



THE TECHNOLOGY REVIEW



Vol. 56, No. 9

July, 1954

The Trend of Affairs

"Boston Tech"

A SHARP historical need at the Institute was satisfied last month with the publication of a history of M.I.T. from its beginnings to the dedication of the Cambridge campus. Written by Samuel C. Prescott, '94, Professor Emeritus of Biology, and entitled *When M.I.T. Was "Boston Tech,"* it gives meaningful continuity to 50 years of personal sacrifice and institutional success. It is a history of events told in terms of the devoted and able men who brought to maturity the revolutionary concepts on which the Institute was founded.

The author himself has been associated with the Institute for nearly two-thirds of a century, as student, teacher, department head, dean, alumnus, and parent; and his book has been, from the outset, a labor of love and a testament of faith. No one else could have written it from so rich a background of intimate knowledge and wise perspective. It follows, too, that in addition to being good history this volume is also a personal report and an essay in interpretation and remembrance.

Dr. Prescott devotes his early chapters to the birth of the M.I.T. idea and the beginning of the M.I.T. experiment. These chapters are especially rich in references to important archival materials. Chief among these is William Barton Rogers' "Plan for a Polytechnic School in Boston" (1846) which is reproduced in an appendix. Equally important is Dr. Prescott's background material on the Rogers family and the four remarkable Rogers brothers, whom he happily compares to the Compton brothers of a later day.

The history naturally catalogues in context the Institute's famous firsts—the first physical science laboratory in America in 1869; the development of important new fields in the '80's; the first professional course in America in electrical engineering in 1882; and the course in chemical engineering—the world's

first—which was begun in 1888 under Professor Walker. The pages are filled with prideful facts of this kind—for example the fruitful efforts of Sedgwick in public health; the development of the formal program in aeronautical engineering under Hunsaker; and the pioneering program in engineering administration.

Just as important to the growth and development of the Institute, perhaps, are the many lesser known facts recorded here. The pages on President Runkle, for example, review the early emphasis on practical experience in laboratory and shop and the elaborate summer field trips which Runkle himself developed. Herein are reported, too, a host of notable alumni events from the first annual meeting of the Association in 1876 to the extraordinary telephone program, following the dedication of the New Technology, in which alumni gatherings in 35 cities participated.

Professor Prescott takes particular pains to demonstrate that M.I.T. maintained from the earliest days studies in philosophy, literature, and modern languages, required all students to take subjects in this area in all four years, and from the outset offered one or more complete curricula to combine general science with the humanities. Of the first 13 graduates (1868), for example, one was granted a diploma in science and literature, and one of the aims announced in the first catalogue (1865) was "to furnish such a general education . . . as would form a fitting preparation for any of the departments of active life."

The history also shares with the reader a sensibility for the little things that recreate the temper of a time. Here are the curious names of student clubs that long ago vanished—Hammer and Tongs, Mandamin, and the dining club that had for its motto "Semper Macaroni Terrapinque." And some of these little things provoke unexpected patterns of reflection, as for example the note that among the students of the small group who began their Institute life in

the crowded rooms of the Mercantile Library was Samuel Cabot, Jr., whose father had been one of the early supporters of Rogers and whose brother, Godfrey, '81, is now the oldest active life member of the Corporation.

It is hard not to write too much about this book in which the very real glory of the Institute's first 50 years is so carefully recorded. It is all here — the early struggle and unrelenting toil to found a new kind of technological institute by Rogers; the early financial struggles with which Runkle was faced; the great growth and expansion under General Walker; the short administration of the modest Crafts; the improvement of social and physical facilities under Pritchett; the new problems of growth and expansion which arose in the early Twentieth Century; the difficult years, under the administration of Noyes during which the decision was made to move to Cambridge; the fabulous gift from the anonymous "Mr. Smith" whose identity as George Eastman was not revealed for almost a decade; and the final period of growth and ultimate removal from Boston to Cambridge under Maclaurin. In reporting this last event, Dr. Prescott catches all the emotions that pertain to the passing of an era. And when the official symbols and records of the Massachusetts Institute of Technology had been transferred to their new home with appropriate pomp and circumstance, "the searchlight on the new buildings rose straight into the air till it crossed in the sky the searchlight on top of the Old Rogers. After a moment, that on Rogers faded and died, and the great beam of light above the portico . . . shot straight up into the blue night sky."

This volume is unique. It is history, it is interpretation, it is remembrance. Most of all it is a tribute to M.I.T. by one who has loved her long; it should be required reading for all who love her well.

Tribute to Karl Taylor Compton

BY DAGMAR

It is your smile we shall remember,
Your smile, serenely warm, that you
Bestowed on all you met. Smiles say
Far more than words may signify, for
Words appeal to mind, while smiles
Like yours touch human hearts.

Historians will record your deeds;
Great men's deeds live on forever.
Scientists will praise your name
For ably representing them.
Your country's head is bowed in
Silent recognition of your love,
And eulogies have emanated from
The corners of the Earth.

But we who knew you, shall remember
Your smile, serenely warm that you
Bestowed on all you met. Smiles say
Far more than words may signify, for
Words appeal to mind, while smiles
Like yours touch human hearts.

Centennial of Amateur Photography

BELIEVER in education as the font of progress for the world, George Eastman repeatedly reaffirmed that belief by generous contributions to the advancement of learning during his lifetime. One hundred years ago, on July 12, Mr. Eastman was born in Waterville, N.Y. On the centennial of his birth, countless numbers of people will, unknowingly perhaps, be observing George Eastman's 100th birthday anniversary when they "press the button" on their cameras, or when they use the word "Kodak" as a synonym for the general term "camera."

The beginning of modern photography starts with George Eastman, for it was he who converted the art of picture-taking from a feat requiring the nimbleness of a juggler and the strength of a Hercules, to the simple act of holding the camera in the hands and pressing a button. In his spare time as a junior bank clerk in Rochester, N.Y., Mr. Eastman would often laboriously start forth on a photographic expedition equipped with tripod, camera, a tent for a darkroom, glass plates, and chemical solutions for making the light-sensitive materials on the spot as they were needed. Contrast this paraphernalia with the film loaded camera of 1954, which our generation regards as almost an accessory. Today's citizen has good cause to be deeply grateful that George Eastman had the urge to change a technical process into a simplified method suitable for use by the public at large.

George Eastman's contribution to progress was the perfection of photography. By devising photosensitive dry plates and making them available for general consumption, he eliminated the need for photographers to become manufacturing chemists. In developing flexible base material of cellulose nitrate as a support for the emulsion Mr. Eastman made possible the roll film camera and motion picture photography; in fact, Thomas Edison made his first successful "movies" on Eastman film. Mr. Eastman established the Eastman Kodak Company, founded on the photographic dry-plate business which he started in 1880, and in a few years had built up a vast business in amateur photography.

Fortunately, Mr. Eastman's interests were not limited to the field of his professional specialization, for the Massachusetts Institute of Technology and the City of Rochester, N.Y. benefited greatly from his beneficence. On the centennial of his birth the Institute looks back to 1912 when George Eastman anonymously made his first gift of \$2,500,000 to Technology and pays him tribute. At a perilous era in the Institute's financial history, Mr. Eastman's gift provided the means for establishing the large group of new buildings on the Cambridge site. Mr. Eastman made several subsequent gifts, not only to cover increased construction costs of the original group of buildings, but to establish the Eastman Laboratories of Physics and Chemistry and otherwise support technical education. In all, Mr. Eastman's gifts to the Institute totaled approximately \$20,000,000.

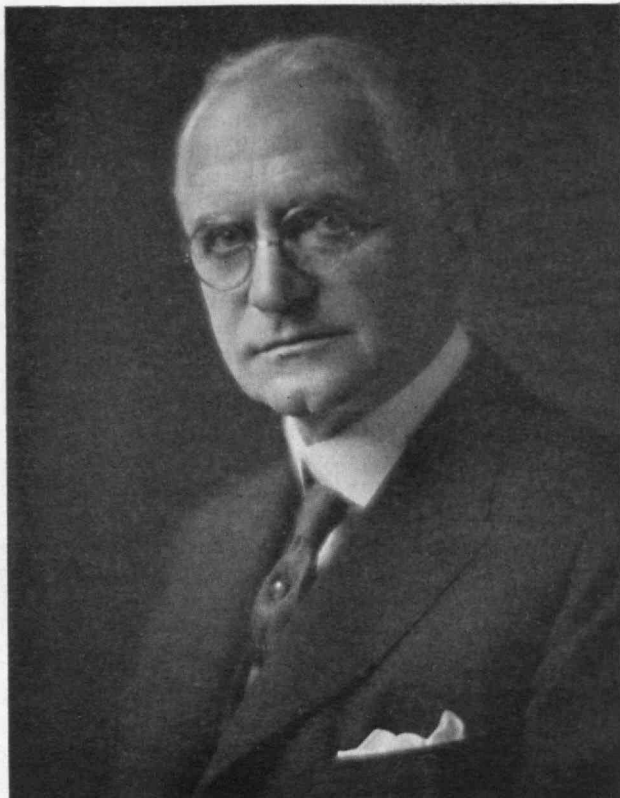
When he made his first gift to the Institute, Mr. Eastman requested complete anonymity. Richard C. Maclaurin, then President of the Institute acceded to Mr. Eastman's wish that the name of M.I.T.'s bene-

factor not be made public, and for eight years the generous giver was known only as "Mr. Smith." Indeed, so well was the secret kept that when the Institute sought to establish its school of chemical practice, Arthur D. Little,'85, appealed to Mr. Eastman for financial aid — and got it. At the time Dr. Little hardly suspected that George Eastman and "Mr. Smith" were one and the same person.

As a successful industrialist, Mr. Eastman's interest in Technology was not founded on sentiment alone. He had faith in the Faculty of the Institute and in its student body. He first came to know Alumni through the employ of the late Darragh de Lancey, '90, and Frank W. Lovejoy, '94. The integrity and ability of these men so impressed him that he read the annual reports of President Maclaurin for nearly two decades as he noted the financial value to industry of technically trained men. He believed that Institute graduates possessed a high standard of ethics, and that no man could go through Technology without learning of his obligations to his country.

Although M.I.T. shared a great portion of Mr. Eastman's fortune, he did not confine his gifts to this technical and scientific school which mourned his death in 1932. Also benefitted were the University of Rochester, Hampton Institute, Tuskegee Institute, and the City of Rochester, N.Y.

Mr. Eastman's accomplishments mark milestones in American industry not confined to the field of photography alone. He was one of the first American business men to establish a wage-dividend plan. He was also one of the first to realize the value of pure research as an aid to industry. May M.I.T. and American industry continue to justify his faith as July 12 is marked.



George Eastman,

the centennial of whose birth occurs on July 12, popularized photography among millions of persons with dry roll film, Kodak camera, and philosophy of "you push the button, we do the rest." A wise and generous benefactor to educational causes, Mr. Eastman preferred anonymity in his munificent gift to the Institute which enabled M.I.T. to move from cramped quarters in Boston to its present location in Cambridge on the Charles River.

M.I.T. to Build Nuclear Reactor

PLANs for a nuclear reactor to be privately financed and devoted solely to education and non-secret research in the peacetime applications of nuclear power were announced by President Killian on June 11.

The first nuclear reactor, planned for construction in New England, will be used in an ever widening search for fundamental knowledge and for the solution of engineering problems in the new and promising field of nuclear engineering.

"Underlying this decision," said Dr. Killian, "is the conviction that nuclear technology will be of steadily increasing importance to the nation, and of very special importance to New England. There is no reactor in this region at the present time and there should be if New England is to secure its proper share of the new technology's benefits."

Coupled with this new reactor are plans for a new building for the physical sciences. The M.I.T. reactor will be useful not only to engineers but to scientists, including physicists, chemists, as well as investigators in the fields of biology and medicine. At the appropriate time approval of the Atomic Energy Commission will be sought for the allocation of the necessary fuel. It is estimated that the total cost of the reactor laboratory, a non-military and unclassified project, will be about \$1,000,000.

In commenting on this latest part of the M.I.T. program in nuclear engineering, President Killian said:

In making these plans, we are moved by firm conviction that the development of atomic energy for peaceful use is important to the spirit and to the leadership of America. Though the United States must of necessity build bombs in a world out of joint, we will move ahead into a better and happier era only by improving the lot of mankind and addressing ourselves to more noble ends than sheer atomic might.

The use of science for defense is necessary, and we cannot be strong without it. But such use of science and technology is not a natural or satisfying use and in the end can only thwart and distort their true spirit. Bold and imaginative acts by Americans to demonstrate the moral purpose and the non-military uses of science and technology, particularly atomic energy, can contribute to our own resources and to our leadership of a world seeking peace. Our great resources of intelligence, imagination, ingenuity and risk-taking spirit are moral forces that can lead the world out of a cold war.

Science, with its spirit of creativity, its search for understanding, its dependence on freedom and good will, and its world-wide currency, offers an avenue to a higher standard of living for all the world. But more importantly it can lead to a resurgence of a spirit of reconciliation and good will among nations. In this period of cold war, we are engaged not only in an atomic armaments race, but in a race to apply atomic energy to peaceful

and beneficial uses. This is a race we must win, not only for our own welfare but for our influence in the community of the free world.

Speaking of the future of education and research in nuclear engineering, Dr. Killian explained that in 1951 the Institute established a graduate program in nuclear science. He said:

These programs, operated by a staff of exceptional competence, need the addition of such a facility as the reactor to be fully effective in their education and research objective. We are well aware that there will be a steadily increasing demand for nuclear engineers and that these engineers will help to accelerate the beneficial uses of the atom in the same way that the chemical engineers helped in putting molecules to work.

An important reason why we have decided to proceed with construction of a reactor lies in the growing conviction that the benign and non-secret use of atomic energy for the health and welfare of man requires a multiplication of private research groups working in areas that have been declassified and which are seeking primarily to advance knowledge or to make technological advances which will serve economic ends and be subject to industrial development.

The recent action of the New England Council of Governors in appointing its own Atomic Energy Committee is evidence of their concern for expediting the public benefits potentially present in this new area of technology. In the last two decades we have seen how research and development in electronics helped this state and this region to acquire a flourishing new industry. The same is possible in nucleonics, a field in which we already have a start through a group of enterprising engineers and industrialists. Research begets more research, and a concentration of research in nuclear technology will encourage both more research and new industry.

As a nation and a region we have a growing appreciation of the importance of energy to our strength, our wealth, and our welfare. Atomic energy is not yet economically feasible, but its practical use is looming over the horizon, and the way to hasten its commercial use is patiently to develop the men and the technology which must be available to achieve any great industrial advance.

Dr. Killian emphasized what he called the "strategic location" of the proposed reactor. "Not only will

it be located in one of the greatest industrial states, rich in technical experience and with a history of industrial innovation," he said, "but it will be in proximity to what I think it is fair to say is probably the greatest and most varied concentration of scientific, engineering, and research talent in the world." He added:

Happily it is to be built at a time when American industry is supporting educational research at an unprecedented rate. This kind of financial support not only advances education and knowledge, but will ultimately return to industry the new products and new methods needed for a dynamic economy.

The importance of this immense new field cannot be overestimated, and we look forward particularly to associating with us a group of industrial companies who wish to be in contact with this advancing technology.

A nuclear reactor is basically a new type of furnace for producing useful energy from uranium or thorium, both of which are found in naturally abundant minerals. In an ordinary furnace chemical reactions occur in an atmosphere of oxygen, and only a fraction of the modest energies associated with the chemical fuel — coal, oil, or gas — is released.

In a nuclear furnace an atmosphere of neutrons causes nuclear reactions which releases the immensely greater energies which bind together the nucleus. For comparison, a given amount of uranium fuel undergoing nuclear combustion will release two million times as much energy as the same amount of coal. Beside being an extremely compact energy source, the nuclear fuel also has the unique ability to regenerate its own neutron atmosphere for nuclear combustion, and hence the nuclear furnace is independent of air for sustained operation. These are the important factors which have motivated the development of the nuclear-powered submarine, a real underseas craft, which was launched last spring at Groton, Conn.

Recently the Atomic Energy Commission announced the beginning of a five-year program for the development of nuclear reactors for the production of commercial power. These nuclear power plants may eventually be of great importance in meeting the rapidly increasing demands for industrial power in many sections of our country, including New England.

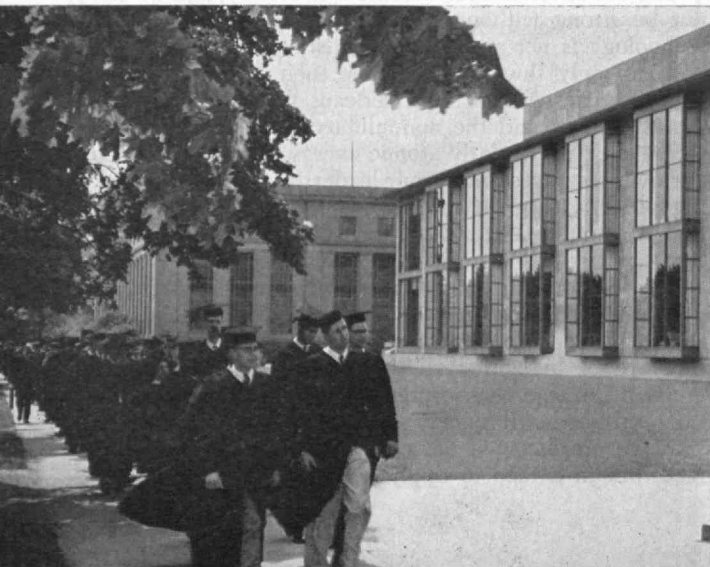
Boston to Have Educational TV

BOSTON'S non-commercial educational television station, which will be in operation this fall on Channel 2, recently acquired space for its television studios in a building adjacent to M.I.T. Papers for the lease of a former rollerskating rink at 84 Massachusetts Avenue, Cambridge, were recently signed by Ralph Lowell, President of the WGBH Educational Foundation, and James R. Killian, Jr., '26, President of M.I.T., which owns the building.

The WGBH Educational Foundation, which will operate Channel 2 under the call letters WGBH-TV, will occupy almost the entire second and third floors of the modern brick building opposite the main entrance of M.I.T. The studio and offices acquired by the WGBH Foundation consist of approximately 11,000 square feet of floor space. The net area of what was formerly the roller skating rink measures 52 by

(Concluded on page 492)

Members of the Class of 1954 march up Memorial Drive past the Charles M. Hayden Library on their way to baccalaureate services in Walker Memorial.





The Educated Man

*He Has the Interest and Ability to Continue Learning,
An Insight into Human Behavior, and Recognizes
That His First Duty is toward His Country*

By CLARENCE B. RANDALL

COMMENCEMENT ADDRESS

ONE who has never stood where I now stand and has never embarked upon the adventure I am about to embark upon, cannot understand the awe and humility with which one faces such a great audience and on such a moving occasion. The excitement in the air today has affected every person in this great congregation. This is America, to me. It has no counterpart anywhere else in the world, and I sense here today in our midst the great spiritual values of our American heritage which we are all dedicated to preserve. It is a privilege for me to stand here as an American businessman, and express by my presence the partnership between the enterprise system based on freedoms and the freedom of inquiry in educational institutions. It is a privilege for me to express once again my belief that the freedom of the marketplace and academic freedom are but phases of the same freedom; and that businessmen must support the privately endowed institutions and that these institutions must, in turn, understand and assist business. We are met together in the name of education, privately maintained education, which really, in the last analysis, is the sole guarantee of that spirit of free inquiry so essential to the preservation of our democracy.

Since the businessman rarely has the opportunity to face up to the educators at a time when they can't talk back, I shall be a bit bold this morning, and as my first act of boldness, I will give my definition of the educated man. I hold that the educated man is one who understands himself and the world in which he lives. He senses to the full the relationship between the two. No job, my young friends, for four years; that's a job for a lifetime. I will even go so far as to outline the hallmarks of the educated man as I understand them. That is brashness indeed, in this distinguished company. I hold that first the educated man will have a philosophy of life to which he holds true. He will know what he believes and live by it. He will have goals and objectives for his life, formed, if you will, this very day as he closes his formal education. He will let the desire to reach those goals and objectives govern all of his conduct all of his life. He will know that he came into this world not by accident but by Divine will. He will sense that his life is a part of something far greater than himself, and he will know that at birth he was endowed with certain gifts and certain talents and deprived of others. He will undertake to develop the full potential that may be expected from those gifts and talents.

Then, the educated man intellectually will demonstrate a capacity to master, I repeat master, some particular subject. The field of human knowledge is so wide that no man can touch more than a tiny segment, but the educated man, as to that particular segment, will simply tear it apart, and know all that he can know about it. Now when I come to an institution of this kind to interview young men and select young men for my company — a privilege which I do not have the chance to enjoy as much now as I did in earlier years — I care not at all what his specialization was. I do not employ young men for what they know. I employ them for their capacity, their proven capacity, to learn. And in the steel industry I care not whether the man masters metallurgy or the Greek classics as long as he has that final intellectual capacity. I want the precision found in the metallurgist but I want also the power to appreciate the logical and clarity of expression of the Greek philosophers, for both those qualities are required in business. Confidentially, this is a touch of bias because I do occupy a position of responsibility in the steel industry, yet in my own undergraduate days I made my best marks in the Greek classics. But the young man who selects a specialty and stays with it, will lead a very narrow and limited life, and will not go far in the business world. Once he has demonstrated his mastery of one subject, he must demonstrate another quality — the willingness to tackle something for which he was not trained, and the intellectual courage to pursue a subject which he finds distasteful and unpleasant. To be specific, the metallurgist, for example, if he is to live a useful life in business, must not only understand matter, but he must be prepared to understand industrial relations and abstract subjects that cannot be solved on a factual basis.

So I want the young man who joins my company to display a readiness to rise above the specialty in which he was trained and take on an unpleasant intellectual job for which he was not trained and lick it. No young man ever lives out his life doing what he thought he was going to do, and he will be quite ill at ease in later life if he does not have that elasticity by which he may move smoothly and adroitly into

whatever field his life leads him. After all, the capacity to think straight and clearly will put a man at home in any subject. I even make bold to say that the businessman can understand the processes of education.

Then the educated man in this modern world must be articulate. He must learn to write and speak the English language clearly and convincingly. Knowledge is no good unless it is communicated. The only purpose of education is to do something with what you know. I yield to no man in my admiration of those who study the great books, but it is not enough to know the philosophy of Aristotle. You must not stay locked up within the great books. Aristotle's philosophy is meaningless unless it is put to work in the modern world. This is the age of ideas. Throughout the world men are struggling to capture other men's minds. And I say it in this presence, because, with deep respect and affection for all of you, the technically trained man often has much to learn about speaking and writing the English language. If he is to have the influence in the world to which he is entitled, he must make his contribution to the formation of public opinion. The educated man will also have a deep sense of responsibility. He will not only be content with knowing facts, he will not only have knowledge, he must have insight — insight into human behavior. He must understand the heart as well as the head. He must learn to deal with emotions as well as with the mind. And this is something not well taught in the university, and if I may say so, not well taught at all, presently, in the institutions that deal with the sciences.

Throughout industry and throughout our community at large, we must understand why people do what they do. We begin that by understanding ourselves. We must be sensitive to our surroundings; aware of the impact of what we say and do upon others, and we must reduce the limitations and build upon the strengths.

The young man coming out into industry finds himself a member of a team. Confidentially, you won't much like the fellow that works next to you. You

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This year, as has been the custom since 1949, Commencement ceremonies were held in the Rockwell Cage. President Killian is at the speaker's rostrum. Members of the M.I.T. Corporation and Faculty, together with representatives of the 50 and 25 year classes are seated on the stage.



Our Greatest Resource

*The Youth of America Is Learning That Personal Liberty,
Depending upon The Respect For Truth and Decency,
Makes Demands of Service to Their Fellow Men*

By RICHARD L. BOWDITCH

ALUMNI DAY LUNCHEON ADDRESS

ON this occasion, and in this great New England Institution, it seems to me appropriate to follow the tradition of the old New England preacher and "take a text."

The quotation which I use as a point of departure for my remarks this afternoon is from an address delivered recently by President James R. Killian, Jr., '26, in saluting the opening of a new graduate school at Brandeis University. President Killian said:

Society has invented the university to perpetuate itself and to create its future. Practical planning and prudence thus motivate the founding and building of a university. But there is something more. The building of a noble university is an expression of the generous impulses, the high purposes, and the soaring aspirations of a free society. The university serves the present, but it does this better if it preoccupies itself with the possibilities of the future.

While Dr. Killian modestly limited, to institutions of learning, the need for concern with the future, he stated an almost universal truth. Whatever our positions in society, all of us also serve the present, and all of us will do a better job of serving insofar as we actively preoccupy ourselves with the future. Indeed, keeping a weather eye on the possibilities of the years ahead seems imperative, not only to success but to survival. Our competitive system has little patience with the man of limited vision.

Until recently the American businessman measured the future largely in terms of things. His assignment was to turn the vast natural resources of this continent into the material objects needed by an expanding population, and then to distribute them as equitably as possible under the pressures and rewards of private enterprise. His look ahead was mainly and necessarily devoted to planning for new and better goods and services at lowered costs. But this was not enough, as two gigantic wars and this country's emergence as leader of the free world have taught him. However great our natural resources, and however important may be their judicious exploitation, we have another resource which is still greater and infinitely more important — the youth of America. I cannot overstate the case. The present is ours — yours and mine — to serve as best we can. But our future rests with our children. Their character and spirit, their vision and energy, will determine the course this country takes in years to come. This nation was built by the young and the young-at-heart. It is the product of those qualities always associated with youth — the broad highway, the big idea, the

bold approach, the recognition of opportunity, the calculated risk, the ultimate reward. This is the American pattern, and it has brought us the world's highest standard of living and world leadership.

But our future rests with our young. How do they estimate their future? I confess I'm troubled. This winter, the publisher of the *Journal of Commerce*, writing in his personal column, expressed his belief that a preoccupation with security was shaping up as a vital problem in the fight to preserve our democratic and private enterprise systems. The reaction to this pronouncement was immediate and extensive. Leaders from a cross-section of our major industries wrote their unhappy agreement with Mr. Ridder's viewpoint. Young job applicants, they reported, were more interested in security and fringe benefits than in chances for advancement. The challenge of the job, the spirit of risk-and-win, now appear to be overshadowed by concern with retirement systems, vacation arrangements, and sick leave payments. While I have repeatedly run across this attitude myself, I want to make it absolutely clear that I'm not handing down a blanket indictment of young people. There are many, many exceptions. But the overconcern with security is far too widespread to be ignored. Our economy depends on expansion, and the rewards of this economy and the safety of America are in direct proportion to the risks we take.

We must admit that circumstances have conspired against American youth. This era has asked more from our young men than any other. We have lived under arsenal conditions for half a generation, and in spite of the prevailing but always uncertain truce, we do not dare eliminate the draft. My own generation has saddled youth with a national debt without precedent in world history. Except for some fiscal miracle, the young man of today will live with high taxes for all his years. For these and other reasons, his likelihood of acquiring a personal fortune diminishes steadily. These factors explain a part of youth's preoccupation with security. Perhaps the rest of it arises from my failure and yours — the failure of all of us — to demonstrate that we still live in a land and in a time of enormous opportunity — a time designed for inquiring minds and skilled hands.

I need not elaborate to the audience, assembled within the walls of this great institution, that the frontiers of our economy are constantly to be expanded. The future expansion of the American economy is inevitable — if we can preserve the free market system. But we cannot hope to preserve the

market system unless our economic system is understood as well as we understand our free social institutions. They are opposite sides of the same coin. We owe our present national security and our comparative abundance to our mastery of the physical sciences and our ability to put the productivity of our knowledge on the industrial assembly lines. Our future is even more dependent on science and productivity.

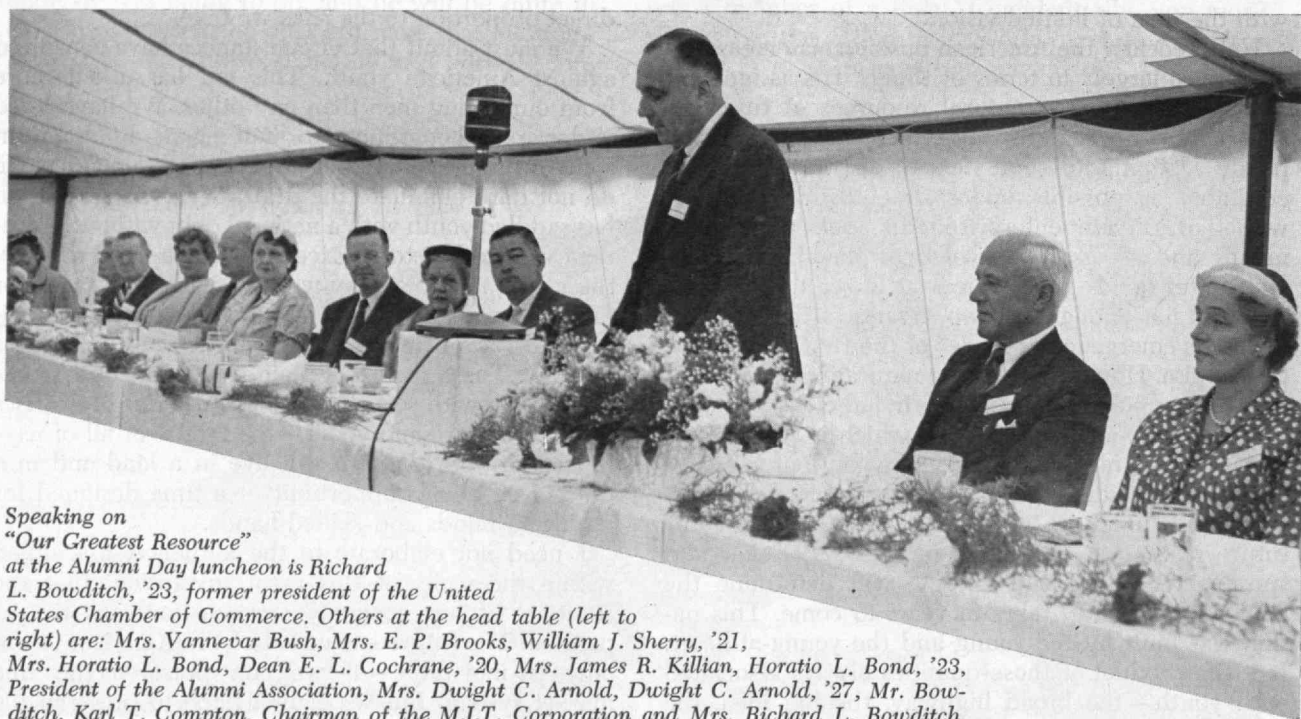
In the present world crisis, we must conserve our manpower and develop its skills to keep safely ahead of the mass-population areas. Our dropouts in high school are more serious than a shortage of vital war materials. We are past-masters at finding substitutes for materials. There is no substitute for education in developing skills of both mind and hand! The future of our nation, the growth of our American culture, and the maintenance of our free-world leadership all begin in your home and mine—in the 45 million households of this broad land. Here the character and destiny of our children is given early shape. Here they absorb the concepts of good and evil which will direct their subsequent courses. Here, within the framework of the family unit, they learn the give and take—the duties, punishments, and rewards—of the whole democratic social system. Let us be sure that the sets of values our children learn from us as parents include tolerance and justice, and the desire and the courage to make some contribution to human welfare and progress.

Of equal importance in molding our youngsters for their responsibilities as citizens, and as proponents of democracy, is our whole educational system. To our public school teachers we turn over the most precious thing in America, and at the most delicate period in its formation. But all too frequently, we ask these teachers to carry on their vital work in cramped, outmoded, physical plants which we would never tolerate in our businesses—and at salaries less than we pay our secretaries. Then, compounding the

injury, we deplore the quality of their output; the ignorance and irresponsibility of the young; their cynicism; their lack of initiative. Now, I suspect that older generations have always felt this way about their children—that our parents felt this way about us. But the fact that the young usually measure up to the old cannot absolve us from doing our utmost to make them wiser and happier people than we are. They will need to be, to live in the debt-ridden, dangerous world we are bequeathing them. The continual upgrading of the minds and bodies of an expanding people is a difficult and painful process, especially in a society as complex and full of change as ours. But it is paramount to our survival and leadership, for education is our first line of defense. And education begins, like most other things, with money—more money for more and better schools; and more money for more and better teachers. The need is now, it is imperative, and it ranges throughout the educational system from kindergarten to college, from primary to professional school. Surely, the richest nation on earth can meet at least this material need! And surely the genius of American business can devise how best to do it.

But there is a second need which must be met if education is to make its greatest possible contribution to the full flowering of the American people. Nothing must hamper its freedom of inquiry and discussion. This nation was conceived and rose to world leadership on the ideas of nonconformists and free-wheelers, of men and women of integrity and wide vision, of individuals with bold, far-reaching minds, who insisted on crossing the frontiers of the unknown. By every estimate they were courageous people. They dared to disagree on many things, but our country and our culture are infinitely richer and stronger for their challenge. We must indoctrinate our young people with the desire to be courageous, to have the will to win, to seek the truth, never to

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Speaking on

"Our Greatest Resource"

at the Alumni Day luncheon is Richard

L. Bowditch, '23, former president of the United

States Chamber of Commerce. Others at the head table (left to

right) are: Mrs. Vannevar Bush, Mrs. E. P. Brooks, William J. Sherry, '21,

Mrs. Horatio L. Bond, Dean E. L. Cochrane, '20, Mrs. James R. Killian, Horatio L. Bond, '23,

President of the Alumni Association, Mrs. Dwight C. Arnold, Dwight C. Arnold, '27, Mr. Bow-

ditch, Karl T. Compton, Chairman of the M.I.T. Corporation and Mrs. Richard L. Bowditch.

The Engineer in Management

*Well Trained in The Orderly Processes Of Thinking,
Engineers Sometimes Fail in Dealing with Things
Which Cannot Be Solved by Logic Alone*

By WILLIAM B. GIVEN
ALUMNI DAY BANQUET ADDRESS

My college career was in engineering, although the original plan had been for me to take an academic course followed by study at law school. My background is different from yours — you probably understood what you were studying. I selected engineering because, although I knew I would never succeed as an engineer, I felt that studying engineering at M.I.T. would increase my chance of climbing some management ladder. Technology, with its School of Industrial Management, has trained many, and will increasingly develop more and more, engineers in management responsibilities.

It is odd how ambitions change. While here at M.I.T., my ambition was to graduate. In industry, at first it was to be kept a long time and, some years later, it was to become head of the company. During the last period of years, my target has been the development of a management team.

In looking back, we, who have had a long period as seniors, are amazed by the total effort which has been put into the study of human factors entering into executive development. Tonight I want to talk about engineers in management.

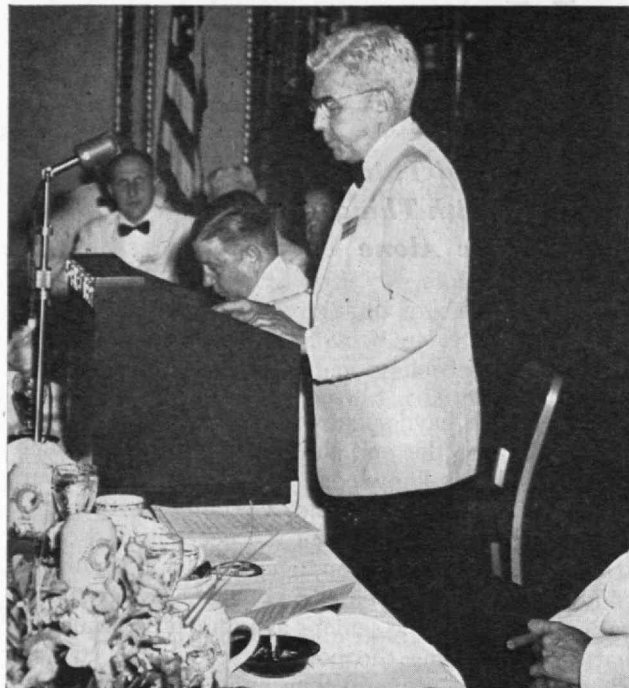
You know there are many different types of engineers and among them all kinds of people. We ceased long ago being surprised by the engineers who reached the top in almost every type of business. Some never needed help. Many would have gone further in management if they had been helped to a better understanding of the many facets of such responsibilities. Many who reached top positions in management acquired the habit of searching for help beyond that available in text books. When still young, they recognized that asking for help neither indicated personal weakness nor entailed an imposition on busy people.

Fifty years ago our company was proud of its one engineering school graduate — from Lehigh. He was a grand person but so factual that the sales department would not permit him to call on purchasing agents. Twenty-five years ago, the number had increased amazingly. Today, in our top 25 positions there are 15 who are graduate engineers, and six who have high engineering knowledge, acquired through study at home or in night school. For each of these men, engineering was step number one toward their management jobs. In my opinion, this number would be still higher if some of the engineers had had a better understanding of the humanities and their bosses had done more about instilling in them a wider knowledge of business and management.

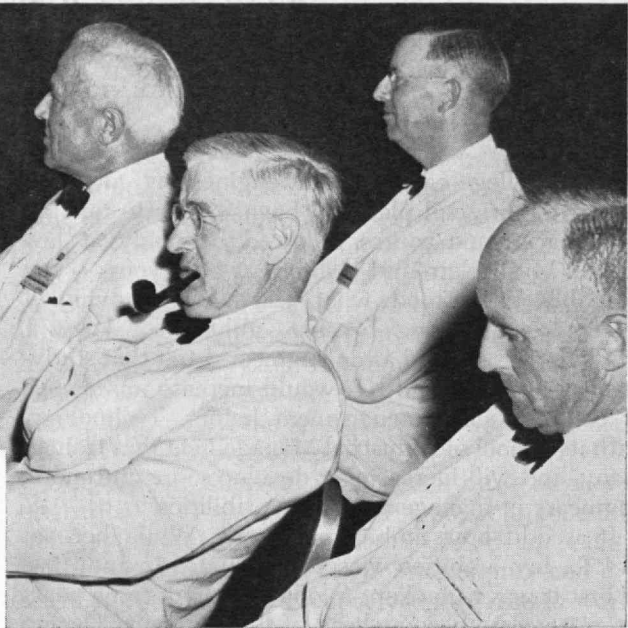
Many of you have spent this morning looking into the future with the end purpose of exploring what will be needed in knowledge and talents to meet our needs in the 10 years ahead. Certainly further decentralization of management is a necessity if we are to capitalize successfully on tomorrow's opportunities. Today, there seem to be two concepts of decentralization. With one, the senior's assignment is primarily that of establishing the policies, setting the course, selecting the people, and then judging the effectiveness of the job done. In the other, the seniors take as an additional assignment, that of coach. The coach must be on the field, which means traveling the company, knowing the people he is coaching, really knowing them. Regardless of the method used to develop them, the need for capable executives is deep and urgent. Successfully meeting whatever is ahead will be largely on the shoulders of engineers. Our problem is: "How can we prepare for the period ahead, and how can we help others to be more fully prepared?" Also, what else can the school of technology do for engineers who hope for management places?

Thinking in terms of preparation for management jobs, what are some of the vital qualifications? How does one go about improving in those areas? What failings are too frequently found in engineers? Not having understood engineering myself, maybe I am overly conscious at times of the boats missed by some of the engineers in our company. In reverse, I certainly am conscious of how engineering develops many assets greatly needed by the capable executive. Engineers are well trained in the orderly processes of thinking. They learn to accumulate the facts, to arrange and analyze them logically and to base conclusions and decisions on their findings. This approach is ideal for a multitude of business problems. Technical training also provides a background of fundamentals which make it easy to grasp quickly the principles of machinery, methods of manufacturing, structure of the organization, and details of the product. In management many engineers are willing to gamble on their convictions, as, for instance, by letting the inventory of scrap iron reach a seemingly dangerous volume in a market of declining prices. The over-confident gamblers are dangerous but the over-cautious ones are dangerous too. These qualities are valuable and give the engineer an advantage over the non-technical man.

Now, what are the failings frequently found in individual engineers? Our experience through the



William B. Given, '08, delivering his address, "Engineers in Management" at the Alumni Day banquet on June 14. Others at the head table are: Donald W. Kitchen, '19, (hidden by microphone) Donald P. Severance, '38, Louis H. G. Bouscaren, '04, President Killian, Theodore T. Miller, '22, Mr. Given, Karl T. Compton, Vannevar Bush, '16, Horatio L. Bond, '23, President of the Alumni Association, and Hugh S. Ferguson, '23, incoming President.



years points up several. Some engineers are weak in their understanding of people and how to deal with human problems. Their breadth and scope is narrow, thereby limiting their horizons. Many lack financial sense, the ability to analyze profit and loss statements, knowledge of accounting procedures, banking, taxes, and the many other aspects of any broad administrative job.

Every management place entails a great deal of negotiating — contracts, purchases, labor disputes — all presenting difficult problems. Many people are born with talent in this. Others become challenged by the need and acquire skill through experience. Certainly ability to negotiate successfully is high on the list of talent needs for management and one which a large portion of engineers do acquire. My first thrilling go at a negotiation came with printers when I was Business Manager of the 1908 *Technique*.

It is well for engineering students and graduates to explore — and find out — which subjects not studied by them help academic graduates most to qualify for management places. Certainly the courses which result in better understanding of clear English do that. All of us can acquire a clearer understanding of what sentences and phrases really mean by reading good books. Biographies are a help to a better understanding of people as well as of English. Books of essays can contribute greatly. History courses have helped many to a better understanding of individuals and of groups — as well as a clearer use of English. Figures highlight the route to the solution of many problems. Our company has had men come to it who have taken all the accounting available in college and others who have taken such courses after joining our ranks. Their efforts have paid dividends in advancement.

As a preliminary step in preparing my talk this evening, I wrote to 18 of our important people — four did not go to college, four took academic courses, and 10 are engineering school graduates. My

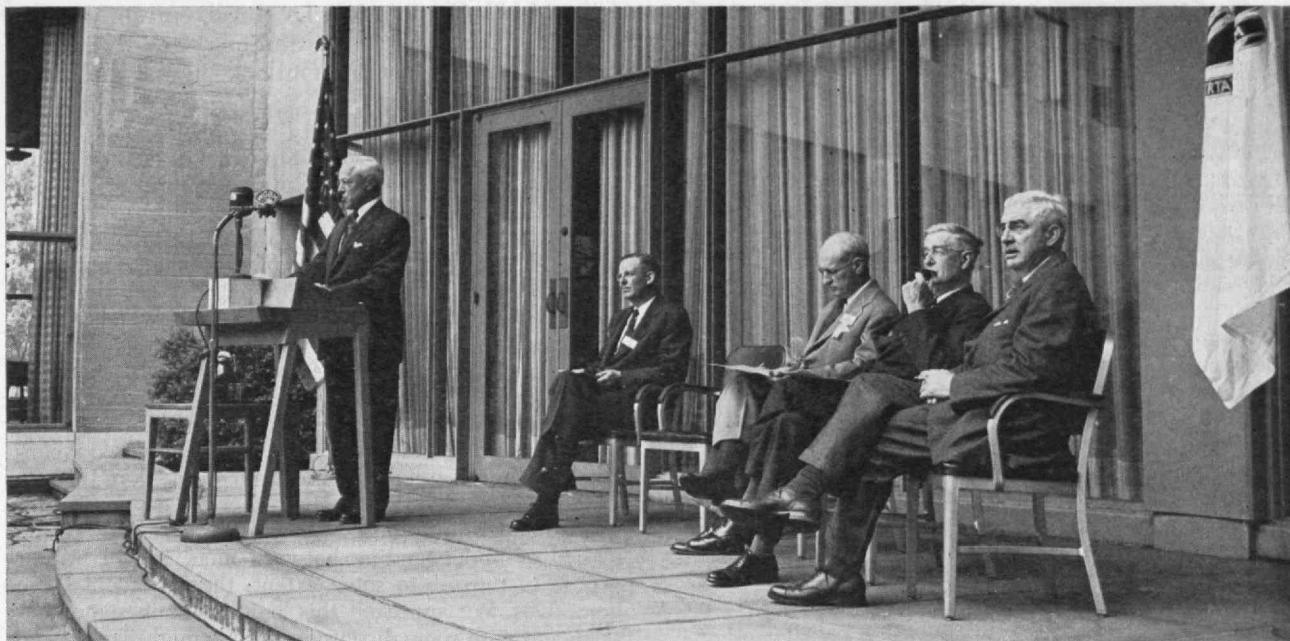
question to them was: "What are your ideas as to the things you believe engineers need to supplement their training, in order to meet the problem encountered in management jobs?" Each man — and I know them all well — gave careful thought to the question. I wish every engineering student and young engineers just out of college could read those answers. I know that, for me, they would have highlighted my needs while I was a student. Let me quote just a few of their comments:

One Bachelor of Arts graduate, heading a group of plants, wrote: "An engineering degree gives the individual a background in fundamentals and principles which can be applied to any business. In many instances, depending on the type of work, the engineer has a distinct advantage in that he is able to grasp and conquer technical problems more quickly than people with general or non-technical training." He also wrote: "The greatest area of development for an engineer is with people." Again, "To be a manager he cannot be only a skilled craftsman. He must also be a warm, understanding, friendly, sincere person. Before leading a team, the engineer must learn to play to the limit in his role of a team member."

Another man with a B.A. degree wrote: "Many engineers do not realize the importance of the things which cannot be measured, such as attitudes, emotions, customs, traditions, prejudices. As a consequence they fail in dealing with those things which cannot be solved by logic alone." A liberal arts education seems to produce better deciders, while an engineering education produces better carry-outers.

A Yale engineer wrote: "Engineers live largely with rules. In management one of the most important

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The Alumni Day Symposium, "The Next 10 Years," was held in the court of the Hayden Library. Taking part in the activities are (left to right) Karl T. Compton, Horatio L. Bond, '23, President of the Alumni Association, Dean E. L. Cochrane, '20, Vannevar Bush, '16, and Dean E. P. Brooks, '17.

The Next 10 Years

Survey of Anticipated Progress in Science and Engineering

As Revealed During the Alumni Day Symposium and

Reported by The Technology Review Staff

AFTER a respite during the past several years, there was resumed an earlier custom of identifying Alumni Day with a theme of national or even international significance, and a program in which leaders in technology took part in a forum at which important problems of the day were discussed. This year the formal part of Alumni Day was opened with a symposium on "The Next 10 Years," intended to provide a perspective on some of the problems that confront us and on some of the measures we can take to meet them.

The morning conference was held in the Hayden Library Court, with Karl T. Compton, Chairman of the M.I.T. Corporation, presiding and making the introductory address. Vannevar Bush, '16, President of the Carnegie Institution of Washington, spoke on "An Engineering Outlook," Edward L. Cochrane, '20, Dean of Engineering at M.I.T., spoke on "The Opportunity for Engineering," and E. P. Brooks, '17, Dean of the School of Industrial Management, took the topic "What Management Can Do." A condensation of these four addresses is presented below.

Introduction

Although his remarks were intended, primarily, to introduce the three speakers whose subjects were

enumerated above, in opening the symposium Dr. Compton pointed out that the conference was intended to provide time to examine some trends in our changing world and to explore some of the newer engineering tools and management methods. In essence, Dr. Compton said:

We meet this morning to hold another annual conference dealing with problems of international importance. Some of you in attendance today may remember the earlier conference we held, prior to World War II, on the "Technology of Defense," and the post-war conference on the "Technology of Peace." Today we meet to discuss "The Next 10 Years," which optimists insist will be highly creative, and which period the pessimists look to with gloom.

Both optimistic and pessimistic sides were amply demonstrated in a recent conference on population problems. The first two days of the conference were devoted to a discussion of the rapid growth of the world's population, and the less rapid expansion of its food supply. It was concluded that the gloomy picture which was painted would provide fertile fields for future social unrest. While this point of view was based on world-wide surveys the same unbalance between food supply and population looms in the United States. Conservationists added to the gloom by recalling to mind the dwindling resources of our nation, and the increasing rate of consumption. The third day of the conference struck another note, however, and optimism became evident when the

progress which science and engineering had made in finding new and untapped resources of food and minerals was recalled. At the conclusion of the conference, one of the speakers was asked how long it would be before technology would be truly effective in producing sufficient food to eliminate want, and was told, perhaps in 50 years. The questioner remarked that India might well fall under Communistic domination within the next year. Thus was pointed up the necessity to consider the time relationship between events taking place in the world today and trends in technological progress.

In a recent issue of the *Scientific American*, Gerard Piel pointed out that the purchasing power of the average American has doubled in the last 50 years; during the same period, the number of man-hours required to produce the necessities of life has steadily decreased. Our productivity has increased because of our increased use of mechanization, and the vast contributions which have been made to our well-being through science, engineering, and technology. Yet an industrial society can be operated satisfactorily only by technically trained persons, and there is evidence that the demands of industry already outstrip the supply of technically trained persons. The situation is especially discouraging when it is realized that Russia trains technical personnel at almost double the rate we do here in the United States, and that we have only our technical knowledge and our ability—not manpower—to look to for providing superiority over the Communists.

There are two opposing forces in the world today. One of these is tradition, or custom, which tends to maintain a status quo; the other is a driving urge for progress. Those who hold traditional views may be "made that way" and perhaps cannot help their points of view. But there is danger in holding too strongly to the traditional point of view.

Science, engineering, and architecture represent the second point of view which is marked by a drive for progress; indeed the professor in technical institutions may be referred to as a "textbook wired for sound." Such men are progressive in the best sense of the word, and our progress depends upon making their creativeness as helpful and useful as possible.

The confusion which we so often witness in public discussions at the present time seems to be largely the result of a conflict between the conservative and the progressive points of view. This is especially true, it seems, as regards the problem of national security. Now national security is achieved by being as far ahead of your enemy as possible, and this can be obtained in two ways: (1) we can advance our strength through knowledge, and the proper application of knowledge, as we do in putting science and engineering to work for mankind, or (2) we can keep our enemy in ignorance of our aims and achievements, as we seek to do through secrecy and "security programs" of one kind or another. To achieve our national objective, we require a greater comprehension of the need to keep going ahead. Most scientists and engineers do realize this important point, but the public evidently does not, and many public officials exhibit a complete ignorance of this essential need. On the national scale, we need a much better balance in recognizing the true significance of these opposite means of improving our power over enemies.

An Engineering Outlook

At the conclusion of his introductory remarks, Dr. Compton then introduced Vannevar Bush, '16, former professor of electrical engineering, dean of engineering and vice-president at M.I.T., and a life member

of the M.I.T. Corporation. Dr. Bush, currently president of the Carnegie Institution of Washington, spoke on "An Engineering Outlook" in essentially the manner reported below.

* It is always a pleasure for me to join a discussion group at M.I.T., not only because of my past pleasant associations with you, but because these meetings generate a spirit of stimulation and progress which is infectious. My part on the program is to try to predict what is ahead of us in the field of technology for the next decade. Now prophecy is a difficult undertaking upon which I embark only because the words we exchange this morning will be long forgotten before there is time to check on the precision of our prophecy.

Science lays before us a path that divides into two forks. On the one hand we see science making major contributions to war and devastation and we deplore this use of man's knowledge. But on the other hand science provides untold opportunities for health, leisure, and the creation of understanding between men. It will be our purpose to pursue, to some extent, the second of these alternatives. We approach this assignment in some confusion and with some dissension, for we might well spend the entire morning on this theme without making any appreciable headway in resolving the problem.

Let us begin by asking ourselves what can be accomplished by science. As we look to the new fields which science opens for us, we see enormous opportunities stretching before us in many fields; opportunities such as have never before been available to mankind. Consider biology alone, for a moment. Here a great surge of knowledge is being built up; we are on the verge of new discoveries of major importance and perhaps the dam is about to break as the accumulated knowledge of the last decades is let loose. There is a ferment in the studies which have been going on in genetics, embryology, virology, endocrinology, and other branches of biology, and in the applications of biology which have brought forth vitamins, penicillin and other antibiotics. And yet only the barest beginnings have been made; as we begin to understand more of biology and apply it for man's welfare, we shall make astounding progress.

The efficacy of medicine has increased tremendously as new tools of analysis and research appear, and as a result we have a new therapeutic approach to diseases such as epilepsy. We have also recently developed new approaches to an understanding of schizophrenia and other aberrations of the mind. Mental illnesses are the causes for the largest number of hospital patients, and with the progress we are now able to make in the study and cure of such diseases, we may well empty many beds of the nation's hospitals which are now devoted to holding of mental patients. The progress that is possible in this direction may well open a new phase in the life of civilization. But the new knowledge that is being rapidly acquired regarding the understanding of the human mind and body has its pitfalls and potential dangers as well as its beneficial aspects; we shall all be appalled at—and must guard against—the improper use of such new knowledge. Here is a danger that cannot be overestimated, and our need is one of learning how to make proper use of our knowledge, as well as to develop the knowledge itself.

The agricultural sciences—with the study of soil, insecticides, and new species of plant life—is another promising field of scientific research. Again this field shows promise of great advance in expanding food supplies to meet the needs of our rapidly growing population. From the days of hand-to-mouth existence, we have reached the point, by way of mass production and

preservation of foods, where starvation no longer need be a serious threat to the world's population. Even though we are not yet able to control the weather, we are making great progress, and we may even be facing a period of great food surpluses. I do not think this is too serious, for surely if our scientists can produce enough food to feed the world, we ought to expect our economists to be able to find a way to make proper use of the products of the soil. In any event, the availability of adequate food stuffs for the world's population may relieve the many pressures which, today, are holding down the way of life for a large portion of the world's peoples, and by so doing may remove one of the major sources of war.

We may soon be on the verge of discovery of what constitutes muscles, and in time perhaps we shall even be able to make artificial muscles. The mechanism by which muscles function is one of the most interesting and efficient of operations, and perhaps we can learn much that man can apply, by the study of muscular processes.

As yet we do not know how to transfer chemical energy directly into mechanical energy where it can be utilized by man. But we are beginning to make our first inroads into the understanding of such processes. When we know the secret of such processes, it seems not at all impossible that man should be able to improve on nature's process for his own benefit, with enormous aid to mankind.

In the very difficult field of protein chemistry, there has recently been an important break through in man's knowledge, in the field where we study molecules whose weights are in the millions. Only recently there has been produced a model of a reproductive molecule. This gives us, for the first time, an idea of the mechanism of the process by which molecules can reproduce themselves. The knowledge which this brings to the surface is at the basis of medicine, and an understanding of life processes.

We see, too, many new improvements on the horizon in the field of new energy sources, or at least vastly improved energy sources. Of course, all of us will immediately think of atomic energy as the most significant of these new energy sources. There has been much attention paid to this energy source, and for this reason I shall not dwell any more on this topic which has been amply discussed. But solar energy is another promising source at our command, and I think it probable that we may see solar energy come into use sooner, in a practical way, than atomic energy. If we can find methods of utilizing this vast energy from the sun — as yet virtually untapped, except by nature — this achievement will be exceedingly valuable. It is quite possible that we may derive more energy from the sun than exists in our reserves of coal and oil. Moreover, the energy of the sun is inexhaustible, so far as man is concerned, whereas our reserves of coal and oil continually diminish. It seems likely that solar energy can be utilized economically, especially when we recognize that the economics of the problem is merely that of first costs and maintenance costs, and that the energy itself comes to us free.

In another field of energy conversion and utilization, one of your own professors here at the Institute has recently made an important step forward. As yet we can't make chlorophyll — that mysterious substance by which nature converts sunlight into products directly useful to plant life. Moreover, we are far from understanding the process of photosynthesis. But we can now make a solution which will absorb energy in the form of sunlight, and give up this energy at some later time, and this is a significant step forward. Another significant step has recently been made by the Bell Telephone Laboratories in their recent discovery and development of a photoelectrically active surface which converts as much as six per cent of the sunlight falling upon it into useful electrical



View of the Hayden Library Court during Alumni Day Symposium, from roof of west wing of the Library.

energy. This is reasonably good efficiency for such an operation. If such surfaces could be built cheaply in large sizes, it would certainly be possible to obtain ample power from the sun.

The field of metallurgy is making great strides and will give us stimulating new materials in the future. Already alloys have been developed which have a tensile strength of a million pounds per square inch. Other metals and alloys having great strength, toughness, or ability to withstand higher temperatures — such as we need in jet engines — will come from our laboratories in time. New materials will undoubtedly come from other fields as well, especially ceramics. Glass fibers have unusually high strength when these are made sufficiently fine; perhaps we can find ways of maintaining this strength in larger sizes. To accomplish this feat, and other equally impressive achievements, we shall have to apply our rapidly expanding knowledge of physics of the solid state. By so doing, we may also be able to make synthetic diamonds. This will probably not be of the variety that the ladies will use for personal adornment, but rather will be used for industrial purposes. Yet, this is by no means an insignificant advance; it will enable us to improve our techniques of mining and thereby considerably improve the utilization of raw materials of the earth's surface.

Rapid developments are taking place in the field of electronics, in large measure, because of progress in transistors. These new devices, which are the only competitors which the electron tube has, are a direct outgrowth of fundamental studies of the physics of the solid state; they were no mere plaything of some attic inventor putting bits of wires and crystals together. The great advantage of the transistor is not alone the fact that it supplements and complements the performance of electron tubes; its exceedingly small power consumption and small size will enable us to employ transistors in many new applications where they serve the needs better than electron tubes, or where large numbers of them must be employed in small spaces, as in computers.

It is interesting to recall that cells of the human brain are called upon to do some of the things which transistors are now doing, but are very much smaller. This leads us to conclude that transistors will be an important factor in the development of more effective analytical machines. When we make extensive use of machines that carry on repetitive and routine operations of calculation, we can assign the non-creative operations to machine manipula-

tions, leaving man free to perform those operations for which his brain is uniquely fitted.

In the early days of technology, the machines which were constructed were simple and often times they were not as reliable as we would have liked. There has long been the feeling that reliability and complexity were incompatible. But we have now reached the point—especially since World War II—where machines can have reliability as well as complexity. In itself, this achievement opens up a vast new field in technology, for it removes some of the restrictions which have bound us.

An important field in which reliability and complexity has not yet had its full impact, is that of storing knowledge of the human race. We must recognize that man began making progress, not when he first used his hands for creative achievements, or when the first wheel or lever was devised, for these discoveries were limited to the accomplishment of single individuals. Man began making real progress only when he learned to write and to record and communicate his knowledge to others. The process of writing, or of storing up information, thus made it possible for him to pass on his experiences to his successors, so that they could benefit from his trials and errors without going through the same errors themselves, and this greatly speeded up progress in man's civilization. Indeed the record of storing knowledge of the human race is essentially the history of mankind. Our progress still depends upon building on the experience of others, but the process of recording, storing, and gaining access to information is becoming tremendously difficult. In fact, we now get bogged down and a great amount of time is wasted by the need to spend many useless hours searching for that small element of knowledge which will enable us to make our own contribution. In many respects, our research workers are approaching a situation comparable to that of the Tower of Babel. The scientist is forced into specialization if he is to make a contribution to existing knowledge. Things have gone so far that workers in the various scientific fields have devised their own type of jargon, so that the world at large is ignorant of what scientists think, or the true meaning of their work. We need to prevent inhibiting our own progress by such encumbering practices.

With the transistor, the magnetic core memory and other elements of recent development, we now have a means for accumulating, storing and gaining access to essential information quickly. The job is by no means yet done, but we begin to see that it can be done, and even how it might be done. In the process of building the necessary storage and access facilities we shall probably learn a great deal about the manner in which the human mind works.

Well, what are the lessons we can learn from this brief review of some of the promising things science has in store for us? For me, the key word is "versatility."

There will be ample opportunity, for those who can move from one area of knowledge into another, to make accomplishments which are very real. The days of the narrow specialist are limited, so far as concerns his ability to make significant, far-reaching contributions. In the development of qualified, well-rounded individuals who are able to work in several fields, there is an opportunity for M.I.T. graduates to lead the procession. There will be much real gratification in carrying on research embracing a variety of disciplines where versatility is a crying need.

But we need also men who will bring together a demand for accomplishment. The man who will lead in the field in the future needs to grasp well affairs covering a wide range of topics—he will not overspecialize. The need is for men having precision of thought, for men who can bring about the changes which they see are on

the horizons. But perhaps most of all we need a true understanding of man himself, and the social implication of the things we are doing.

The leaders for the next 20 years will have much opportunity and will face great challenges. Science will not stop, but will ever continually expand in a form which we can hardly grasp or envision at the present time.

Opportunity for Engineering

The very able and highly stimulating address given by Dr. Bush came as a result of intimate knowledge of scientific progress to which many institutions of learning contributed. The comments of the third speaker of the symposium were, appropriately enough, somewhat more intimately associated with engineering progress going on at M.I.T. Accordingly, when Dr. Compton introduced Admiral Edward L. Cochrane, Dean of Engineering, the address on "The Opportunity for Engineering" covered essentially the material recorded herewith.

The decade just past has been a short one—or so it seems—and yet when measured in terms of world accomplishment it has been both encouraging as well as discouraging. It has been a wonderful decade as measured by engineering accomplishments, and we can recite many achievements to prove this statement. In the field of human relations, however, we need much better instruments than are now available to detect progress. Two barometers of progress are available at the moment; one in Washington and one in Geneva and neither predicts as fair weather as might be desirable. But we must recognize that nations are but organizations of men, and that what we see in the national or international scene is but a magnified reflection of what happens to us and what actions we take as individuals; our shortcomings as well as our strength are reflected. In retrospect the past decade seems to be ominous, but I feel no compulsion, on an occasion of this kind, to make dire predictions. And, if Senate Committees can break ground rules, so can we. Accordingly, I propose to set up three ground rules.

The first of these ground rules is our declaration that there shall be "no wars." The second is that we should, as we say in the Navy, "keep a bright lookout to windward." Now, of course, that is an old expression coming to us from days of the sailing ships, but I think it indicates the point of view I wish to bring to your attention. So, for the rest of my talk, I plan to table any idea of a war in the near future and base my predictions on the assumption that we shall conduct our work under conditions of an armed truce, if not of peace.

Of course engineering progress is greatly accelerated by the demands of wartime, and we have made tremendous progress under wartime needs. But it is equally obvious that the same goals of engineering achievement could be made without war. As examples of wartime progress, the great surge of electronic developments, including many types of radar—sometimes more types than I could find room for on my ships, and more than I could ever learn about—came out of World War II. So too did many synthetics. Out of the Manhattan Project with the A bombs that exploded over Hiroshima and Nagasaki, came two children which are destined to exceed the parent in size and ability. One of these is the H-bomb, which I shall discuss no farther; it is plainly the "ornery" child of the parent. The other, nuclear energy, is a lad of great promise to mankind, and from whom we may expect a bright future. Nuclear energy was first

(Continued on page 484)

A Report on Commencement and Alumni Day

TRADITIONAL in many respects were the events of Senior Week, culminating in commencement exercises on June 11, and of Alumni Day, June 14. Still, the affairs marking the close of the current school year were denoted by a sufficient number of innovations — and even one or two unique features — as to be worthy of special emphasis.

Possibly presaging an era in which the distaff members will give new meaning to the Institute's ever present co-educational activities, it can be reported that the 21 women who received degrees this June — including four who took Ph.D. degrees — represented the largest class of women graduates in the Institute's history. As if to lend emphasis to this achievement, the Ladies Banquet, at which Mrs. Karl T. Compton was the honored speaker, was the largest of its kind in M.I.T. history. Another unique feature of Alumni Day was that the nation-wide Civil Defense alert occurred on June 14, just as activities at the registration desk were reaching their peak.

The symposium, "The Next 10 Years," which took place on the morning of Alumni Day, renewed a highly successful practice of former years. By offering Technology Alumni opportunity of listening to internationally known leaders in science, engineering, and management, in a discussion of current trends in these fields, the symposium added an educational incentive to the purely social reasons for coming back to Tech on Alumni Day. Nor must we overlook, in our recital of unique events, the publication, on Alumni Day, of a significant volume on the early history of the Institute, by Samuel C. Prescott, '94.

Through an unusual concatenation of events, The Technology Review faced an unprecedented challenge in gathering, reporting, and generating copy for this final issue of the volume, as might be inferred from the unusually small number of signed articles for a July issue. In the task of gathering copy for this issue of The Review, it is a pleasure to acknowledge the wholehearted co-operation which was rendered by the Institute's News Service and especially by the Lowell Institute Co-operative Council, whose transcriptions greatly facilitated publication of a number of addresses.

The events associated with the close of the M.I.T. school year are recorded in the following pages in their chronological sequence.

Senior Week Events

As usual, the graduates had a week of activities in conjunction with commencement, beginning with the Senior Stag Banquet held in Rockwell Cage at 6:30 P.M. on Friday, June 4. The following day, the Class Party and Carnival was held at Walker Memorial at 8:00 P.M. On Monday, June 7, the annual senior ball was held at the Hotel Statler, and the following evening members of the senior class went on a moonlight cruise.

On Thursday, June 10, R.O.T.C. students received their commissions in the morning and in the afternoon graduates gathered on the steps of Building 10 at 2:15 for their class picture, and then to march to the baccalaureate service held at Walker Memorial at 3:00 P.M.

R.O.T.C. Commissioning Exercises

The commissioning exercises of the Reserve Officers' Training Corps of the United States Army and the United States Air Force were opened with the Needham High School Band playing the General's March. The invocation was given by Rabbi Herman Pollack. Colonel Glenn C. Coleman, Professor of Air Science at M.I.T., made the introduction of Dr. Compton and other distinguished guests. Brigadier General Ralph W. Zwicker, U.S.A. Commanding General, Camp Kilmer, and Brigadier General Kurt M. Landon, U.S.A.F. Chief of Staff, Air Research and Development Command, presented commissions for the Army and Air Force, and the Oath of Office was administered to the 143 young men receiving commissions by Colonel Charles M. McAfee, Professor of Military Science and Tactics at M.I.T. Father J. Edward Nugent gave the benediction and the exercises were concluded with the Needham High School band playing the national anthem.



About to enter Rockwell Cage for commencement exercises are, (in usual reading order): James R. Killian, Jr., '26, President of M.I.T., Clarence B. Randall, Chairman of the Board of Inland Steel Company, who gave the commencement address, and Karl T. Compton, Chairman of the M.I.T. Corporation.



Commencement Day luncheon was held under canvas in the Great Court. Those at the head table were (in usual order): Nolan T. Jones, '54, Mrs. Nolan T. Jones; Professor Gordon B. Wilkes, '11, who becomes Professor Emeritus; Mrs. Gordon B. Wilkes; Dr. Godfrey L. Cabot, '81; Ralph Lowell; Vannevar Bush, '16; Karl T. Compton; Mrs. Clarence B. Randall; and President Killian.

Baccalaureate Service

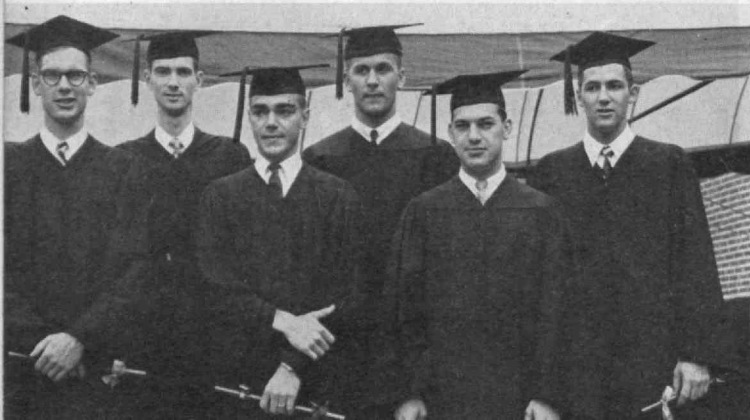
The baccalaureate service of the Class of 1954 was held at Walker Memorial at 3:00 P.M. on Thursday, June 10. Philip M. Richardson, '26, at the organ, rendered the prelude and, as processional, the "Solemn March" by Felix Mendelssohn. Call to worship was given by Dean E. Francis Bowditch, and the audience sang the hymn "For the Beauty of the Earth" by Conrad Kocher with lyrics by Folliott S. Pierpont. President James R. Killian, Jr., '26, gave the reading which consisted of text from *Proverbs* 3:13-23, and extracts from "The University" by John Masefield. Under the leadership of Klaus Liepmann, the M.I.T. Choir sang "Chorale and Kyrie" by Johann Sebastian Bach.

The baccalaureate address, "The Pleasures of Learning" was delivered by Gilbert Highet, Professor of Greek and Latin at Columbia University. A prayer was given by Dean Bowditch, and the M.I.T. Choir sang the "Hallelujah Chorus" from "Mount of Olives" by Beethoven. Dean Bowditch gave the benediction, and the ceremonies closed with the recessional march, "Marche Religieuse" by Joseph Jongen.

Commencement Exercises

More than 4,000 relatives and friends of the graduating Class of 922 men and 21 young women attended the 88th commencement exercises of the Institute in Rockwell Cage on June 11. The principal address was delivered by Clarence B. Randall, Chairman of the Board of Inland Steel Company and Chairman of the United States Commission on Foreign Economic Policy. The Review is happy to present Dr. Randall's

Officers of the Senior Class, in reading order, are: Robert E. Anslow, Third Marshal; Edwin G. Eigel, Secretary-Treasurer; Dean L. Jacoby, President; Royal C. Riedinger, Jr., Vice-president; David L. Vogel, Second Marshal; and Coleman Bresee, First Marshal.



address, "The Educated Man" to its readers (page 461). President Killian made the traditional address to the Class and personally awarded the degrees. Julius A. Stratton, Provost, and Walter H. Gale, Secretary of the Institute, were Investors of the Hood.

Commencement exercises opened with the academic procession of graduates, guests of honor, members of the M.I.T. Corporation, Alumni of the 50-year Class of 1904, officers of the 25-year Class of 1929, and members of the Faculty. Chief Marshal Horatio L. Bond, '23, President of the Alumni Association, led the procession and Karl T. Compton marched at the head of the Guests of Honor Division. Walter Humphreys, Secretary of the Corporation, was Marshal of the Corporation Division, and Currier Lang was Marshal of the Class of 1904. Marching at the head of the Class of 1954 were the class officers and marshals whose pictures appear below.

In an unusual and unlisted ceremony, Walter Humphreys received a certificate of appreciation commemorating his 25th year as Secretary of the Corporation. The certificate, first of its kind awarded by the Institute, was presented by Dr. Compton. President Killian made the presentation of the Goodwin Medal to Robert L. Barringer, a graduate student member of the academic staff for conspicuously effective teaching. The medal is named for the late Harry M. Goodwin, '94, first dean of the Institute's Graduate School.

After the playing of the "Star Spangled Banner," with Melville Smith at the organ, the commencement program was formally opened with the invocation given by the Reverend Herbert Gezork, President of Newton Andover Theological Seminary.

Of the 21 women receiving degrees this June from M.I.T. were the four young ladies who received Ph.D. degrees. In reading order are: Olivia A. Hammerle; Carolyn Cohen; Mrs. Marie A. Fitzgerald; and Evelyn M. Bender. Pearl Appel, Margaret Carmody, Jean Epstein and Janet Grosser received S.M. degrees.





Continuing with those at the head table at the Commencement Day luncheon, left to right, are: Mrs. Karl T. Compton; Clarence B. Randall, Commencement Day Speaker; Mrs. James R. Killian, Jr.; Carle R. Hayward, '04; Mrs. Carle R. Hayward; John B. Babcock, '10, who becomes Professor Emeritus; Mrs. Horatio L. Bond; Horatio L. Bond, '23; and Dean L. Jacoby, '54.

Commencement Day Luncheon

Since the discontinuance of Class Day activities several years ago, the open air luncheon on Commencement Day has, in some measure, been the means for recognizing the recent graduates as new Technology Alumni; it has also provided opportunity for members of the Faculty and representatives of the Alumni Association to join families and friends of the graduates on a happy and auspicious occasion.

A buffet luncheon was served, under canvas, in Du Pont Court as well as in an adjoining portion of the Great Court where tables for the speakers and honored guests were located.

Upon conclusion of the informal luncheon, President Killian paid special tribute to the Class of 1904 who had gathered to celebrate the 50th anniversary of their graduation from the Institute. Since the Class of 1904 had left the Institute a month before he was born, Dr. Killian professed a particularly close affection and kinship for this Class. In a review of some of the more important contributions which members of the Class of 1904 had made, President Killian recalled with pride the fact that Dr. A. C. Willard had served as President of the University of Illinois, whereas two other members — Henry T. Kalmus and E. Wastcoat — had developed an important process of color photography and had honored their *Alma Mater* by naming this process "Technicolor." Commenting upon conditions at the time the 50-year Class left the Institute, President Killian recalled — thereby giving evidence of an extraordinarily good memory — that a great debate was going on in 1904, regarding the desirability of a union of M.I.T. and Harvard. Such a merger would combine the very considerable financial resources of Harvard with the outstanding science and engineering faculty and facilities of the Institute.* Members of the Class of 1904 were opposed to the merger, and Dr. Killian took opportunity to praise the Class for its loyalty and support of M.I.T.'s independence throughout the past half century. As Reunion Chairman, Carle R. Hayward, '14, Professor Emeritus, was then called on by Dr. Killian.

Expressing appreciation at the honor of being able to speak on the occasion, Professor Hayward spoke of the great advances that had been made in technology in the past half century. He illustrated this

progress by relating the story of a student who had recently asked Warren K. Lewis, Professor Emeritus, for admission in the Course in Chemical Engineering. In the conversation, the student thought to support his case by reminding Professor Lewis that he had taught his father a quarter century back. This brought forth the comment from Dr. Lewis: "Tell your father we can teach you in three weeks all that was known about chemical engineering when he was a student." Professor Hayward expected the Class of 1954 to do better work than the Class of 1904 had done, because they will be better equipped and have better tools, but he doubted that they would have any more fun than the half century class.

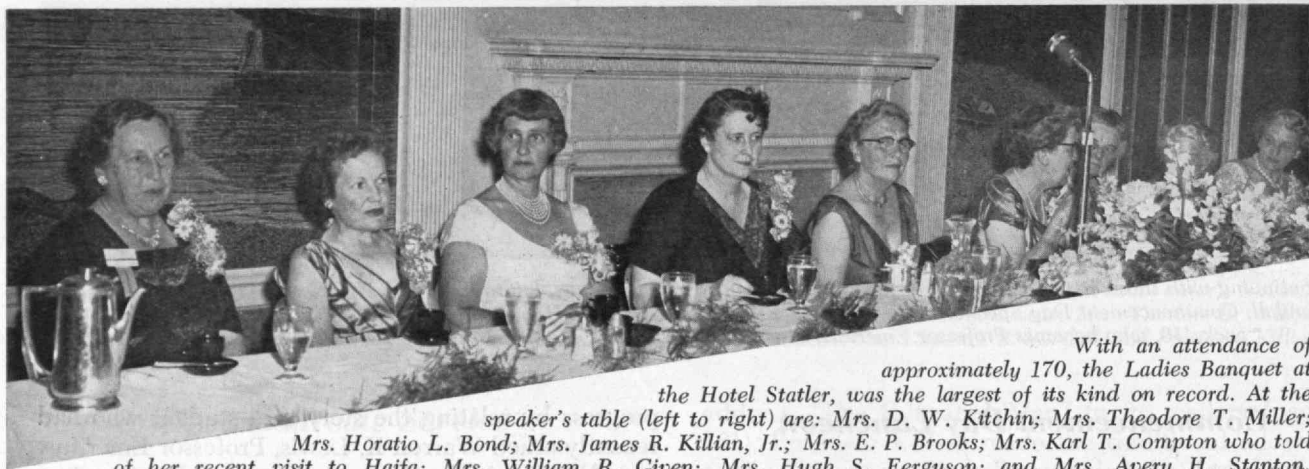
Recognizing that the fame of the Institute is based on its accomplishments in the application of science, Professor Hayward expressed the hope that the trend of applied science would be continued, since it is the application of knowledge that makes for better living, especially knowledge of the physical and medical sciences.

Dean L. Jacoby, President of the graduating Class during his senior year, and permanent President of the Class of 1954 was then asked to speak. He stated that he felt his Class was entering a zone of uncertainty; his classmates no longer were undergraduates but neither had they had opportunity to regard themselves as full-fledged Technology Alumni. He also stated that the members of his Class had a deep feeling of pride in their progress at the Institute.

Informal group at the Alumni Day luncheon, held under canvas in Du Pont Court.



*This phase of the Institute's history is admirably recorded in the recently published volume *When M.I.T. was "Boston Tech"* by Samuel C. Prescott, '94, and published by The Technology Press.



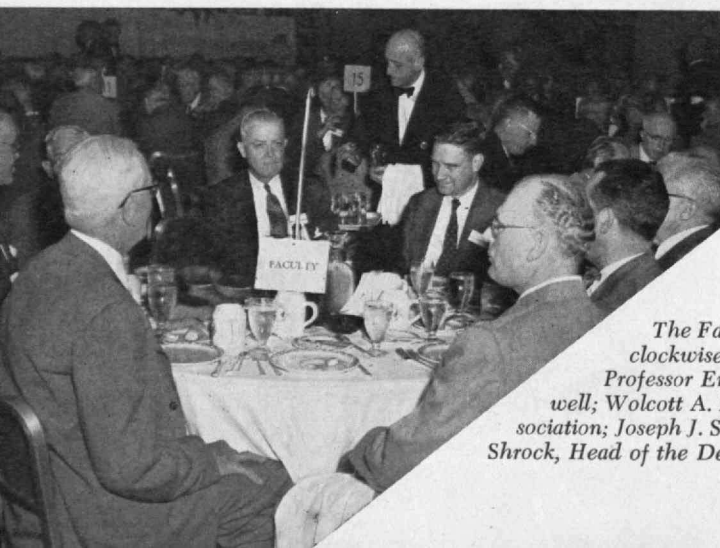
With an attendance of approximately 170, the Ladies Banquet at the Hotel Statler, was the largest of its kind on record. At the speaker's table (left to right) are: Mrs. D. W. Kitchin; Mrs. Theodore T. Miller; Mrs. Horatio L. Bond; Mrs. James R. Killian, Jr.; Mrs. E. P. Brooks; Mrs. Karl T. Compton who told of her recent visit to Haifa; Mrs. William B. Given; Mrs. Hugh S. Ferguson; and Mrs. Avery H. Stanton.

President Killian then introduced two members of the Faculty who reached the emeritus status this year — John B. Babcock, 3rd, '10, and Gordon B. Wilkes, '11 — both of whom have been associated with the Institute's teaching almost since their graduation from M.I.T. Brief biographies of these two well-known professors appeared on page 409 of the June issue of *The Review*.

In his usual unassuming and friendly manner, Dr. Compton made a few informal remarks to the graduates and their friends assembled. He stated his belief that a good college or university is "a corner in men's hearts where hope lives." He expressed evident satisfaction that this should be so, for the younger generation will be expected to carry on the world's work, and the young college graduates, especially, represent the flow of hope for the future. Then, as he had done on many similar occasions in the past, he wished members of the graduating class Godspeed in the work that awaited them.

President Killian concluded the luncheon addresses by recalling a greeting President Pritchett had given to the Class of 1904 upon its graduation. Like President Pritchett, Dr. Killian wished the graduates a career of useful service in which the Institute would take much pride.

Upon the conclusion of the luncheon, President and Mrs. Killian, Dean and Mrs. Bowditch, and Dean L. Jacobs, '54, met with relatives and friends of the graduates in a reception which the camera captured as shown on page 456.



The Faculty was well represented, as usual, at the Alumni Day banquet. In clockwise order, from opening in foreground, are: James W. F. MacDonald; Professor Emeritus Walter C. Voss, '32; Delbert H. Rhind; Frederick G. Hartwell; Wolcott A. Hokanson, who was made an Honorary Member of the Alumni Association; Joseph J. Snyder, 2-44; Horace S. Ford; Dean Thomas T. Pitre; and Robert R. Shrock, Head of the Department of Geology.

Reunion of Class of 1929

Following the precedent established last year the Class of 1929 held its 25th year reunion "back at Tech" from Friday, June 11 to Monday, June 14. Baker House was the headquarters of the reunion and it accommodated all who wished to take part in on-campus activities. Friday was given over to registration, swimming, buffet dinner and dancing.

Events on Saturday began with cafeteria breakfast and tours of M.I.T. for families and friends. At 1:00 P.M. Morss Hall in Walker Memorial was the scene of the Faculty luncheon with members of the 25-year Class. Continuing the pleasant precedent of last year, those members of the Faculty who were present 25 years ago — as well as a few of the more recent members of the M.I.T. family — were guests of the Class of 1929 at the informal luncheon. As master of ceremonies, C. Brigham Allen paid generous tribute to those who had organized the reunion, and presented a gift of appreciation to Mr. and Mrs. Walter H. Gale. President Killian and Dr. Compton both spoke briefly and brought greetings from the Administration and the Corporation. Erwin H. Schell concluded the luncheon with an address "A Place For Gladness."

Following the luncheon the class picture was made of Alumni and their wives and children on the steps of Walker Memorial, and a water carnival in the Alumni Swimming Pool ended the afternoon events. In the evening, the schedule called for dinner and attendance at the Pops Concert in Symphony Hall.

Sunday was given to shore dinner, swimming, and sightseeing at Castle Hill (near Newburyport, Mass.) with a buffet supper once again at Baker House on the M.I.T. campus, followed by informal relaxation and entertainment. Monday, the Class took part in usual Alumni Day events.

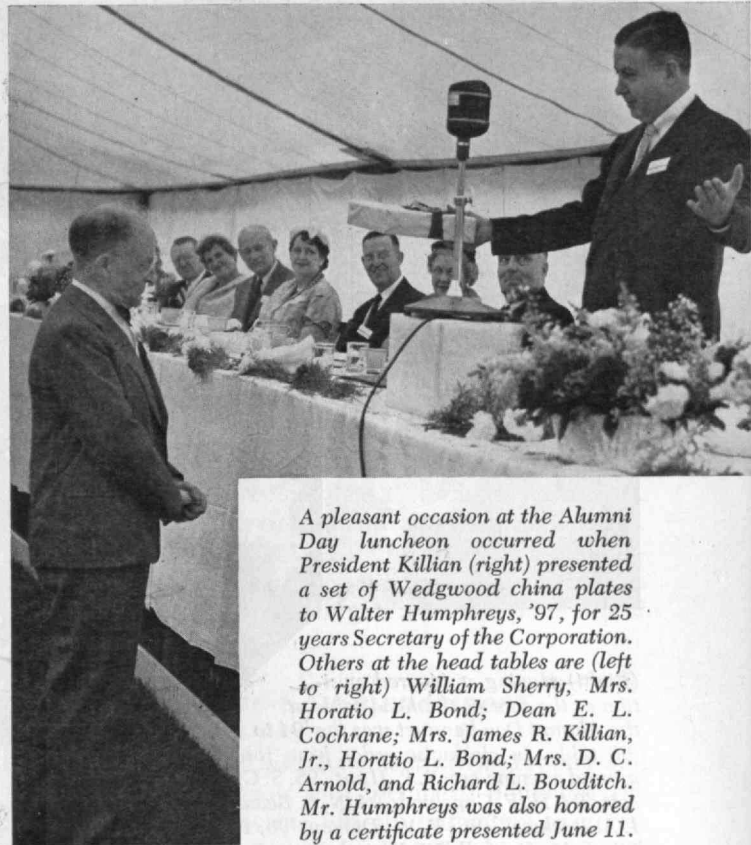
Of the approximately 125 members of the Class of 1929 to return to Tech, Sadik A-H. Baroudi set probably the long distance record. He flew from Hama, Syria, to attend the 25-year reunion.

Meeting of Honorary Secretaries

The honorary secretaries and educational counselors met at the Faculty Club at 5:30 P.M. on Sunday, June 13, for a business meeting and annual dinner. In the largest meeting of its kind 135 members and representatives of the Institute's staff took part. As last year, there was no afternoon session devoted to open discussion, but members of the council who had special problems could consult individually with M.I.T. personnel who were available for the purpose.

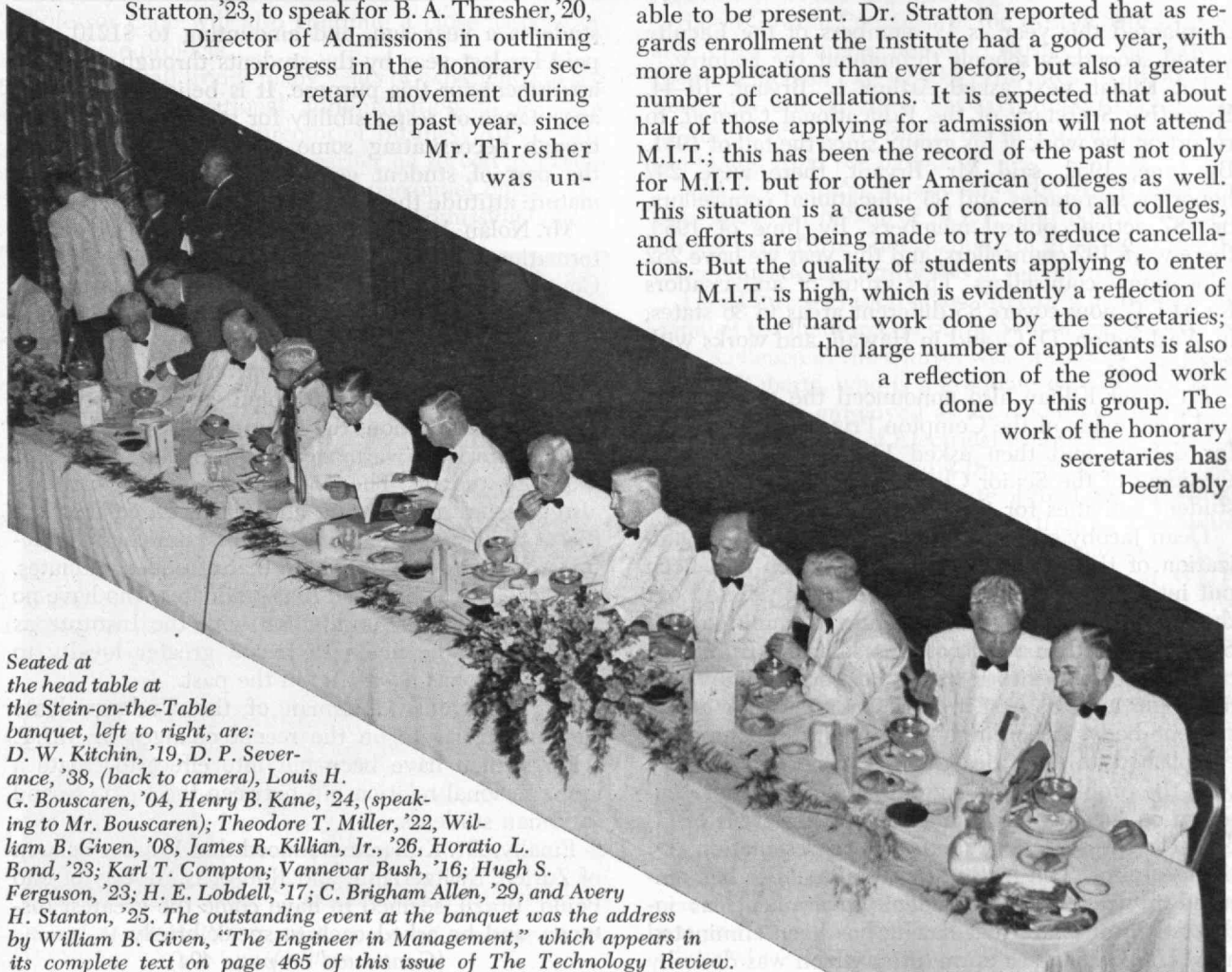
At the conclusion of the dinner President Killian called upon Dr. Compton, who enumerated some of the many contributions made to M.I.T. by Redfield Proctor, '02, Governor of Vermont in 1923-1925, and member of the M.I.T. Corporation for 30 years. For many years Mr. Proctor had felt it desirable for M.I.T. to have a Faculty Club and he supplied funds to be used for this purpose at the appropriate time. When the Sloan Building was purchased, the "appropriate time" was thought to have arrived and the Faculty Club was established. As evidence of his interest in the exchange of students between foreign countries, Mr. Proctor also established the Redfield Proctor Travelling Fellowships, of which James B. Fisk, '31, the Bell Telephone Laboratories was one of the early recipients. At this point, Dr. Compton unveiled a portrait of Redfield Proctor painted by Gardner Cox '32, a graduate of the course in architecture.

President Killian then called upon Julius A. Stratton, '23, to speak for B. A. Thresher, '20, Director of Admissions in outlining progress in the honorary secretary movement during the past year, since Mr. Thresher was un-



A pleasant occasion at the Alumni Day luncheon occurred when President Killian (right) presented a set of Wedgwood china plates to Walter Humphreys, '97, for 25 years Secretary of the Corporation. Others at the head tables are (left to right) William Sherry, Mrs. Horatio L. Bond; Dean E. L. Cochran; Mrs. James R. Killian, Jr., Horatio L. Bond; Mrs. D. C. Arnold, and Richard L. Bowditch. Mr. Humphreys was also honored by a certificate presented June 11.

able to be present. Dr. Stratton reported that as regards enrollment the Institute had a good year, with more applications than ever before, but also a greater number of cancellations. It is expected that about half of those applying for admission will not attend M.I.T.; this has been the record of the past not only for M.I.T. but for other American colleges as well. This situation is a cause of concern to all colleges, and efforts are being made to try to reduce cancellations. But the quality of students applying to enter M.I.T. is high, which is evidently a reflection of the hard work done by the secretaries; the large number of applicants is also a reflection of the good work done by this group. The work of the honorary secretaries has been ably



Seated at the head table at the Stein-on-the-Table banquet, left to right, are: D. W. Kitchin, '19, D. P. Severance, '38, (back to camera), Louis H. G. Bouscaren, '04, Henry B. Kane, '24, (speaking to Mr. Bouscaren); Theodore T. Miller, '22, William B. Given, '08, James R. Killian, Jr., '26, Horatio L. Bond, '23; Karl T. Compton; Vannevar Bush, '16; Hugh S. Ferguson, '23; H. E. Lobdell, '17; C. Brigham Allen, '29, and Avery H. Stanton, '25. The outstanding event at the banquet was the address by William B. Given, "The Engineer in Management," which appears in its complete text on page 465 of this issue of The Technology Review.



(Left.) Members of the Class of 1929 made a good showing at the Alumni Day banquet which brought to a close their 25 year reunion. Shown at one of the '29 tables are (in clockwise order): Jerome Palmer, James Fahey; Raymond Underwood; Carl M. F. Peterson; William Harris; and Hemenway Bullock. Eric Bianchi and Frank Pierson, also at this table, are not shown in the photograph.



(Right) Having a favored position at the foot of the head table at the Alumni Day banquet was the '94 to '96 table. In clockwise order from foreground opening are: S. P. Hunt, '95, S. C. Prescott, '94, H. F. Copeland, '94, N. S. Bean, '94; Dr. J. A. Rockwell, '96; F. W. Damon, '96; R. A. Davis, '96; J. M. Driscoll, '96 (not shown); A. H. Sparr, '96, and E. M. Hunt, '96

supplanted this year as 12 members of the Faculty visited secondary schools throughout the country.

Dr. Killian next asked Arthur L. Bryant, 10-44, Executive Secretary of the Educational Council, to report on the work of his group, since the fall of 1951. By June, 1952, said Mr. Bryant, there were 292 honorary secretaries and 95 educational counsellors, or 387 active counsel members. By June of 1953, there were 192 counsellors, and this year we have 282 educational counsellors. This group of ambassadors for M.I.T. now covers 85 different areas in 36 states, in Washington, D. C. and in Hawaii, and works with 654 schools.

President Killian also announced the awards that had been made of the Compton Prizes (see page 479 for details) and then asked Dean L. Jacoby, '54, President of the Senior Class, to report on the major student activities for the past year.

Dean Jacoby spoke at some length on the reorganization of the Institute Committee which had been put into effect during the past year. He pointed out that for many years the Institute Committee had been organized on a basis of representation from each of the major activities at M.I.T. but that such division no longer appears best to represent the needs of the student body. Accordingly, the Institute Committee established an Activities Counsel to deal specifically with the problems of this group, and made representation on the Institute Committee on the basis of (1) course representation, and (2) representation by living groups. The Institute Committee also has matured in treatment of student government, as indicated by the fact that hazing has been eliminated at M.I.T. Damage to dormitories which was done by

students a year ago, and amounting to \$1210, was paid for last year by the students through a special assessment for this purpose. It is believed that such acceptance of responsibility for student affairs, even though necessitating some unpopular measures on the part of student government, indicates a more mature attitude than has been evident in the past.

Mr. Nolan Jones was then asked to speak on the formation and activities of the Graduate Student Council. This Council is composed of representatives from the various courses or professions, in addition to one from each living group. This year the Council published the *Graduate Student News*, a newspaper, which has done much to bind graduate students together. In addition, the Council has made serious efforts to provide warm welcome to incoming foreign graduate students. The Graduate Student Council has also selected a class ring and (as recorded on page 355 of the May issue of *The Review*) now has a structure of classes comparable to that of undergraduates. In this way it is believed that graduates who have no prior undergraduate affiliation with the Institute as Alumni, will be made to feel a greater loyalty to M.I.T. than has been true in the past.

Norman Dahl, Chairman of the Undergraduate Committee, spoke on the recent changes in M.I.T. policy which have been put into effect to create a more personal relationship between the Institute and freshman students.

Finally, Dr. Killian announced that Werner Schoop of Zurich, Switzerland, and Robert L. Moody of Sao Paulo, Brazil, seemed to have come the greatest distance, and he asked each to speak briefly.

(Continued on page 494)

THE INSTITUTE GAZETTE

PREPARED IN COLLABORATION WITH THE TECHNOLOGY NEWS SERVICE

Kimball Appointed Secretary

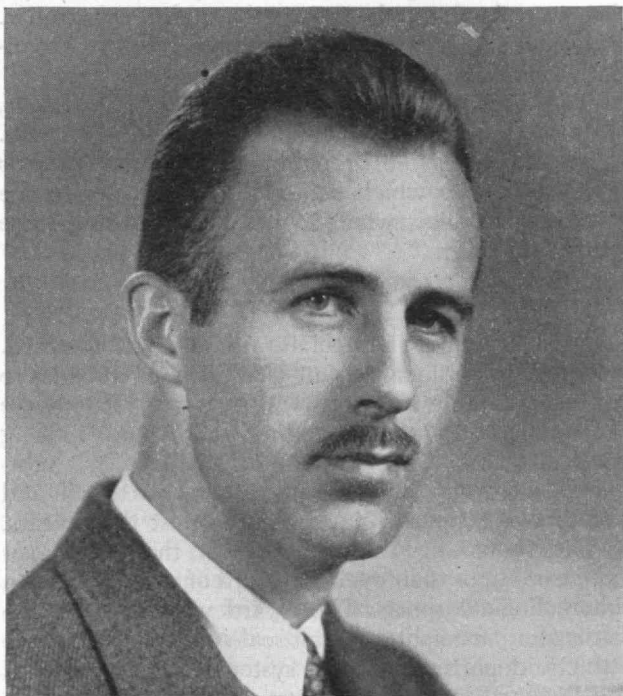
THE appointment of Robert M. Kimball, '33, as Secretary of the Institute was announced June 20 by President James R. Killian, Jr., '26.

Mr. Kimball succeeds Walter H. Gale, '29, Associate Professor of Aeronautical Engineering, who has asked to be relieved of administrative duties to devote full attention to plans for future development at the Institute. In making the announcement of Mr. Kimball's new appointment, Dr. Killian stated:

M.I.T. is fortunate in securing Mr. Kimball for this important administrative post. His variety and breadth of experience, his extensive knowledge of M.I.T. affairs, and his sound administrative judgment make me very happy to have him more closely associated with my office as he will be.

In his new post, Mr. Kimball will work with the Secretary of the M.I.T. Corporation and its committees to further major new undertakings of the Institute. He will have special responsibility for relationships with the various departmental Visiting Committees and for the Committee on Development. Professor Gale will also continue a close association with these projects.

Mr. Kimball brings many years of experience in scientific and educational administration to his new duties. He has been director of Business Administration at M.I.T. since 1950; earlier he served as executive assistant to the President, personnel officer, and as a member of the Registrar's and Admission Offices.



Robert M. Kimball, '33, newly appointed secretary of the Institute.

Between 1948 and 1950 Mr. Kimball, on leave from M.I.T., was administrative associate director of the Los Alamos, New Mexico, Laboratory of the Atomic Energy Commission. He was graduated from M.I.T. in 1933, after attending Phillips Academy at Andover for two years.

Professor Gale, a resident of Melvin Village, New Hampshire, became secretary of the Institute when that post was created in May, 1951, after serving for several years as director of M.I.T.'s Summer Session. He graduated in aeronautical engineering from M.I.T. in 1929; from 1935 to 1945 he held engineering positions in the aircraft industry and government research laboratories before returning as associate professor of aeronautical engineering.

Lowell Institute Commencement

ROBERT J. Short, Chief Engineer of the Procter and Gamble Company in Cincinnati, delivered the principal address at the fiftieth graduation exercises at the Lowell Institute School at the Massachusetts Institute of Technology on May 27.

Ralph Lowell, President of the Boston Safe Deposit and Trust Company and sole trustee of the Lowell Institute School, awarded certificates to about 100 graduates, one of whom was Mrs. Robert Davisson of 19 Middle Street, Waltham, the first woman ever to be graduated from the School.

Karl T. Compton, Chairman of the M.I.T. Corporation, spoke on behalf of M.I.T., and Nils Y. Wessell, President of Tufts College, brought greetings from the other educational institutions in the metropolitan area.

The Charles Francis Park Medal, which bears the name of the first director of the School and is awarded for excellence in the course, was presented to Vernon E. MacRoberts, who is a graduate of Whitman High School and is employed as an electronics technician in the Department of Electrical Engineering at M.I.T. The citation accompanying the Park Medal was read by Edward R. Sears, a graduate of the Lowell Institute School with the Class of 1911. Arthur L. Townsend, '13, Director of the Lowell Institute School and Associate Professor of Mechanical Engineering at M.I.T., presided.

The Lowell Institute School was established in 1903 under the auspices of the Lowell Institute Foundation to enable men working in industry to take evening instruction in technical subjects.

Students in the School come from large corporations, from engineering offices, and from small machine shops and manufacturing plants. They come from everywhere in the Boston area and represent an impressive variety of trades and occupations. The curriculum, which began with mechanical and electrical courses, has increased in content and intensity over the years. A building course was added in 1913, and in 1923 the School began to add advanced courses in special fields.



Technology's sailors, including (left to right) Horacio A. Garcia, '54, skipper, John H. Reiman, '54, Jorge Dena, '54, and Alain deBerc, '55, won the National Intercollegiate Sailing Championship for the Henry Adams Morss Memorial Bowl held at Newport Harbor, Calif., June 15-18. It was the eighth championship of the 18 events sailed since it was inaugurated in 1937 which has been captured by M.I.T. sailors, and climaxed a season in which Technology sailors divided honors for principal trophies with sailors from Harvard.

Following this victory, sailors from Harvard and M.I.T. representing the New England Intercollegiate Sailing Association, successfully defended the Sir Thomas Lipton Memorial Trophy, emblematic of the team racing championship of North America.

Tech Sailors and Crew Take Championships

ON July 3, the M.I.T. crew won the Thames Challenge Cup by defeating a British Royal Navy Crew by two and one-half lengths at Henley-on-Thames, England, during the Royal Henley Regatta. This victory for the crew came shortly after M.I.T. sailors had won, from Harvard University, the National Intercollegiate Sailing Championship for the Henry Morss Memorial Bowl at Newport Harbor, Calif., during June 15 to 18. Tech and Harvard sailors then teamed up to represent the New England Intercollegiate Sailing Association and successfully defended the Sir Thomas Lipton Memorial Trophy against challenges from Midwest and Pacific Coast sailors. Those who regard the Institute as an educational institution lacking in sports, are decidedly behind the times in their thinking.

In rainy weather, in which fitful gusts of wind made the Thames choppy, President Killian, on academic business in England, saw the Technology crew cover

the one mile 550 yard course in seven minutes and 24 seconds, at the close of preliminary races in which the cardinal and gray was the only crew representing the United States. In fact, the United States almost dropped out of the race on the first day of the Royal Henley Regatta as crews of St. Paul's School of Concord, N.H., of the Ivy Club of Princeton, and of the Yale University Boat Club bowed to British crews.

At the finish of the Henley races, as the M.I.T. crew won over 72 competitors, coxswain Jerome D. Waye, '54, was tossed into the river in the traditional manner. Coach Jack Frailey, who trained the crew, was similarly treated.

The Institute's Director of Athletics, Ivan J. Geiger, flew to England with members of the M.I.T. crew. Upon his return he brought with him the Thames Challenge Cup which has added new luster to the President's Office, where it has been residing since early in July.

Athletic Awards

TWO top athletic awards were made at an all-Institute convocation at the Institute on May 14. Recipients were Joseph P. Bova, Medford senior, who received the Class of 1948 trophy, and the Theta Chi Fraternity, which received the Beaver Key trophy.

Bova has been the Tech goalie in both hockey and lacrosse since his sophomore year and is a three-year letterman in each sport. The trophy he received is awarded annually to the member of the senior class who has best exemplified through athletics, traits of leadership and character. He was also judged outstanding in progression and achievement. The trophy was presented by Benjamin L. Averbach, who is this

year Chairman of the Athletic Administration Board.

Three other members of the Class of 1954 were given honorable mention for the award. They were Edmundo Garcia, outstanding sailor and retiring student commodore, William H. McTigue, Jr., lightweight crew captain and Paul Rudzinski, captain and number one squash player for the past three years.

The Theta Chi Fraternity received the first Beaver Key trophy for their over-all record of participation in intercollegiate sports. The award was made on the basis of a participation-point scale patterned after the athletic department's point system and administered by Beaver Key, M.I.T. junior class honorary society and donor of the trophy. It was presented by Richard P. Toohy, '55, President of Beaver Key.

Goodwin and Compton Awards

ROBERT L. Barringer, a teaching assistant in physics at the Institute, received M.I.T.'s Goodwin Award for conspicuously effective teaching, at an all-student convocation on May 14.

A native of Lakewood, Ohio, Mr. Barringer received his bachelor's degree in physics from The Principia College (near Alton, Ill.) in 1951. He entered the M.I.T. graduate school as a candidate for the doctorate in physics in September, 1951, and was appointed teaching assistant in February, 1952.

The Goodwin award is named in memory of Harry Manley Goodwin, first Dean of M.I.T.'s Graduate School, and is granted to a member of the M.I.T. instructing staff who is studying for an advanced degree at the Institute. Although the award may be made annually, it is given only for unusually effective teaching.

The first M.I.T. Compton Awards were also made at the same convocation. Established by the Boston Stein Club, the awards are named in honor of Karl T. Compton, Chairman of the Board at the Institute. They are given in recognition of outstanding contributions by students in promoting high standards of achievement and good citizenship within the Institute.

Recipients were Charles J. Masison, Jr., '54, Austin Whillier, Sc.D., '53, and the Institute Committee, the undergraduate governing body at M.I.T.

Masison is a graduate of The New Preparatory School of Cambridge. As chairman of the Dormitory Committee during the current academic year, he has been responsible for the effective co-ordination of all the undergraduate dormitory groups at M.I.T. He also organized the dormitory leadership conference, was responsible in large measure for the Institute Christmas program, and participated in the Institute Committee leadership conference, the Institute Committee reorganization and the Freshman Advisory System.

Mr. Whillier is a native of the Orange Free State Union of South Africa, and received his doctor of science degree in mechanical engineering at M.I.T. last June. While a graduate student at M.I.T., he worked for an effective graduate student governing body and wrote the first proposed constitution of what is now the new Graduate Student Organization. He was also one of the originators of the M.I.T. rugby team and has worked effectively for a closer relationship between graduate degree alumni and the Institute through the Alumni Association. This closer relationship has begun to come into being over the past year.

The Institute Committee, the undergraduate governing body at M.I.T., received the group Compton award for its contributions to effective communication at the Institute and for its recent reorganization of student government. The certificate of award presented to the Institute Committee read as follows:

"During the past year it has exhibited high qualities of intelligence, independence, responsibility and courage, and through its actions in effecting its own reorganization and improving communications with, and understanding by, other members of the Institute community it has earned the respect of students and faculty alike."

Hunsaker Professorship

GIFTS totalling \$275,000 to the Massachusetts Institute of Technology to establish a professorship in aeronautical engineering honoring Jerome C. Hunsaker, founder and for many years head of the Department at M.I.T., was announced June 14 by James R. Killian, Jr., '26, President.

A distinguished aeronautical specialist is being invited to be the first Jerome C. Hunsaker Professor of Aeronautical Engineering, Dr. Killian told Alumni at their annual luncheon. The present \$275,000 endowment for the Professorship, received from many donors throughout the aircraft industry, is expected to be increased to \$500,000 by subsequent gifts, he said. "This fund," Dr. Killian continued, "is a magnificent example of the kind of support which all private educational institutions must have to maintain their high standards of education supported by pioneering research studies."

Professor Hunsaker, who is honored by the Professorship, came to M.I.T. in 1909 as a graduate student, after graduating from the U.S. Naval Academy at Annapolis. After a survey of European aeronautics in 1913, he organized at M.I.T. the first course in aeronautical engineering in the United States which since then has graduated many of the nation's leading military, naval, and industrial aeronautical engineers. When the Department of Aeronautical Engineering was created at M.I.T. in 1939 he became its head, a post which he held until his retirement in 1952.

In 1916 Dr. Hunsaker was called to active duty with the Navy, to take charge of the Aircraft Division of the Bureau of Construction and Repair. In this post he supervised the design of the NC-4, the first aircraft to fly the Atlantic, and the airship *Shenandoah*. For his design work in World War I Professor Hunsaker received the Navy Cross. Other honors have included the Daniel Guggenheim Medal (1933), the Franklin Medal (1942), the Presidential Medal for Merit (1946), the French Legion of Honor (1949), and the Wright Brothers Memorial Trophy (1951). He has been a member of the National Advisory Committee on Aeronautics since 1923 and its chairman since 1941.

In announcing the Jerome C. Hunsaker Professorship today, Dr. Killian named seven Alumni of the Institute who have been instrumental in establishing this new fund. They are: Major General James H. Doolittle '24, Vice-president of the Shell Oil Company; Donald W. Douglas '14, Chairman of the Board of the Douglas Aircraft Company; Rear Admiral Luis de Florez, '11, President of the de Florez Engineering Company, Inc.; Major Lester D. Gardner, '98, Former President of Aeronautical Archives; Leroy R. Grumman, Chairman of the Board of Grumman Aircraft Engineering Corporation; Vice Admiral Edwin H. Land, Chairman of the Board of Polaroid Corporation; and Edward P. Warner, '17, former member of the Civil Aeronautical Board.

In recognition of his loyal and faithful service to M.I.T. and his many contributions to the Institute, including aid in raising funds for the Hunsaker Professorship, the Institute has set up a scholarship fund of \$50,000 honoring Major Lester D. Gardner.

Roundup

MEETING for the last time for the current season, 132 members and guests attended the 304th meeting of the Alumni Council on May 24. President Horatio L. Bond, '23, called the dinner meeting at the M.I.T. Faculty Club to order at 8:05 P.M. for a fairly long business session at which the year's activities were summarized in several reports.

As Secretary for the Association, Donald P. Severance, '38, announced that between March 22 and May 24 visits had been made to 10 alumni clubs by 11 members of the Institute family. Changes in class affiliation for 15 Alumni were approved, and class representatives on the Alumni Council for classes whose numerals end in 5 or 0 were announced.

It was also reported that earlier in the day the Executive Committee had voted recognition of the M.I.T. Club of São Paulo, whereas recognition was withdrawn from the M.I.T. Club of Shanghai. The Executive Committee also voted to submit nominations for committee personnel for Council consideration, and to the election of Wolcott A. Hokanson as an Honorary Member of the Alumni Association.

As Executive Vice-president, H. E. Lobdell '17, made his annual report on the operation of the Alumni Association. In this oration, Mr. Lobdell stated that as of April 30, 1954, Alumni of the Institute number 48,671 of which 9,303 are current contributors to the Alumni Fund. At present there are also 91 Alumni Clubs in various parts of the world, of which 69 are located within continental United States, 12 are elsewhere in the Americas, and 10 are overseas in the other hemisphere. In his report, Mr. Lobdell referred to a study made by the American Alumni Council on college financing and covering 302 institutions of higher learning. On the basis of total gifts received by alumni funds from Alumni only, M.I.T. stands 17th out of 302 institutions reporting for the year 1953. However, if the total financial support rendered by Alumni is included, (including gifts of classes, gifts made to the Development Office, and grants of the Sloan Foundation, for example) the situation is somewhat different. The A.A.C. report states "Less than a third of the reporting schools as noted, accepted the invitation to report a total of alumni gifts not credited to the alumni fund. The category of Total of All Alumni Giving is, therefore, only a partial figure. On the basis of reports submitted, M.I.T. leads in this area with \$2,230,213, followed by Rutgers with \$1,750,196." Mr. Lobdell spoke of the success of Regional Conferences such as that held in Detroit on January 30 (see p. 258, March issue of *The Review*), reviewed the status of post-baccalaureate Alumni (page 355, May issue of *The Review*), spoke of the plans for a new Alumni Register, and closed his detailed report by expressing appreciation for the support he had received since his appointment as Executive President as of January, 1947, since which time he has traveled an estimated total of 277,000 miles punctuated by 216 visits to 72 of the 91 Alumni Clubs throughout the world.

Reports of the Secretary and of the Executive Vice-president were accepted with the simultaneous election of members nominated.

Karl T. Compton was then called upon to summarize events of his recent trip to Israel. At present there are 36 Alumni in Haifa, of whom 21 got together to welcome Dr. and Mrs. Compton on their recent visit to Technion, the technical institute of Israel. Dr. Compton stated that his visit was made, in part, on behalf of the American Technion Society, in part on behalf of the Boston Stein Club which is likewise interested in technological developments in Israel, and in part on behalf of Gerard Swope, '95, who has planned a loan for Technion similar to the M.I.T. Loan Fund. Dr. Compton stated that Technion was organized before World War I but, like M.I.T. (whose history was interrupted by the Civil War), did not get into operation until 1926. Technion consists of an Institute of Technology with about 120 students and resembling, on a smaller scale, M.I.T. In addition it has a trade or vocational school, with 800 students, which is roughly comparable to the Lowell Institute School. Student life at Technion is similar to that of M.I.T. students, except that printed technical textbooks in Hebrew are not available. For this reason students of Technion have engaged in a venture to publish notes of their professors and conduct all note-taking, editing, illustration, and publication activities in this project. Before leaving the United States, Dr. and Mrs. Compton invited all present students of Israel to tea and offered to communicate with families and friends in Israel. Five of these students are studying naval architecture as part of Israel's program of overseas trade expansion. At present it appears likely, said Dr. Compton, that an M.I.T. Club might be formed in Haifa.

In reporting on recent events at the Institute, President Killian recalled the awards made at the convocation on May 14 and reported on page 479. President Killian also announced that he had recently been advised by Professor William T. Martin of the Department of Mathematics, that M.I.T. students continue to obtain top awards in competitions run by the American Mathematical Association. He also took obvious pride in reporting achievements of the 150 pound varsity crew whose later successes in England are recorded on page 478. Finally, Dr. Killian announced the establishment of an endowed chair in the field of aeronautical engineering to be named after Jerome C. Hunsaker, '12, as reported on page 479.

Final speaker of the evening was John E. Arnold '40, Associate Professor of Mechanical Engineering, who spoke on "Science Fiction in the Classroom." An unusual approach has been employed by Professor Arnold in his course in Product Design or, as it is sometimes known, Creative Engineering. Although concerned with the teaching of the principles of mechanical engineering, Professor Arnold has striven to develop imagination and flexibility of approach among his students. As one method of getting them to consider new situations he has required his students to design household appliances, transportation vehicles, and similar commonly used items for inhabitants of a distant planet whose physical environment differs radically from that of the earth. Professional men taking summer courses at M.I.T., and regular technology students have found the new method of presentation exceedingly interesting.



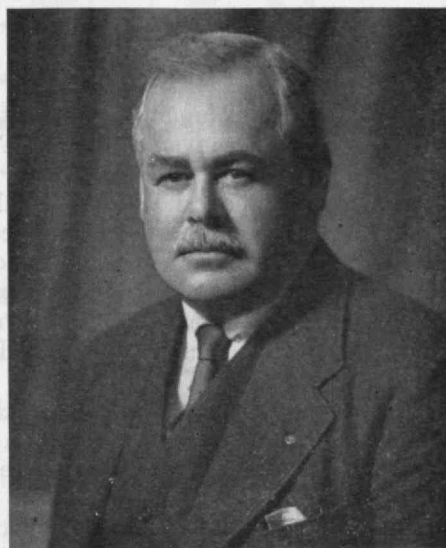
Ferdinand Vogel

Robert T. Haslam, '11

Corporation Elections

Elected to life membership on the Institute Corporation are Robert T. Haslam, chemical engineer with W. R. Grace and Company, and Ralph Lowell, President of the Boston Safe Deposit and Trust Company. Theodore V. Houser, Vice-chairman of Sears Roebuck and Company, was elected for a five-year special term.

Elected to a five-year term in a national ballot of M.I.T. Alumni are: Horatio L. Bond, '23, chief engineer of the National Fire Protection Association, Ray P. Dinsmore, Vice president of the Goodyear Tire and Rubber Company, and William J. Sherry, oil producer.



Fabian Bachrach

Ralph Lowell

Mr. Haslam, '11, formerly an Alumni term member of the Corporation, was born in North Adams, Mass., in 1888. He received the degree of bachelor of science at M.I.T. in 1911 and, after one year as assistant in analytical chemistry, entered the Research Laboratory of the National Carbon Company, Cleveland, Ohio, where he became the assistant superintendent. Appointed associate professor at M.I.T. in 1920 and full professor in 1923, Mr. Haslam subsequently directed the School of Chemical Engineering Practice, the Research Laboratory of Applied Chemistry, and the Course in Gas and Fuel Engineering.

After four years as vice-president and general manager of the subsidiary Standard Oil Development Company, he joined the Standard Oil Company of New Jersey in 1935, serving until 1950 as general sales manager, vice-president and director and vice-president. He was a vice-president of Hydro Engineering and Chemical Company and director of the Plantation Pipe Line Company and is currently president of the U.S. Pipe Line Company and a director of the American Gas and Electric Company, W. R. Grace and Company, Dewey and Almy Chemical Company, Ethyl Corporation and Worthington Corporation.

Ralph Lowell, recently a special term member of the Corporation, was born in Chestnut Hill, Mass., in 1890, and received the degrees of bachelor of arts and doctor of laws at Harvard, doctor of humanities at Tufts, and doctor of laws at Northeastern. His positions from 1913-1917 with Curtis and Sanger and the First National Bank were followed by wartime army service in which he attained the rank of Lieutenant Colonel and by his postwar service as civilian aide to the Secretary of War of the State of Massachusetts.

In 1932, after 13 years with Lee, Higginson and Company, Mr. Lowell joined Clark, Dodge and Company and served as a member of the firm from 1937 to 1943. He has been chairman of the executive committee and board of directors of the Boston Safe Deposit and Trust Company since 1943 and president since 1946.

As trustee, director, executive officer, advisor, and corporation member, Mr. Lowell, is associated with 39 educational, medical, charitable, and business organizations. He is a fellow of the American Academy of Arts and Sciences and a member of the Boston Chamber of Commerce, American Cancer Society, National Institute of Social Sciences, Massachusetts Historical Society, and Phi Beta Kappa.

Theodore V. Houser, special term member of the Institute's Corporation, is a native of Kansas City, Mo. Graduated from Iowa State College, he began his professional career as an electrical engineer and is now chairman of Sears Roebuck and Company in Chicago, Ill.

One of the Corporation's new Alumni term members is Horatio L. Bond, '23, past president of the M.I.T. Alumni Association and for 25 years Secretary of the Class of 1923. Chief engineer of the National Fire Protection Association in Boston, he is also a member of the Society of Fire Protection Engineers and of Britain's Institute of Fire Engineers.

Ray P. Dinsmore, '14, a native of Tewksbury, Mass., joined the technical staff of the Goodyear Tire and Rubber Company in 1914 and served in both Canada and California before returning to Akron as chief chemist and research director, assistant factory manager, development department manager, and, in 1943, vice-president. He was assistant deputy rubber director from 1942-1943 and is currently vice-president and director of the Goodyear Synthetic Rubber Corporation. Awarded an honorary doctorate by Case Institute of Technology, Mr. Dinsmore is a trustee of two research foundations.

William J. Sherry, '21, was a petroleum engineer with the Shaffer Oil and Refining Company from 1921 until 1923, when he became an oil producer. Since 1931 he has been president of the Sherry Petroleum Company. A member of the American Mining and Metallurgical Institute, the American Association of Petroleum Geologists, and the American Petroleum Institute, Mr. Sherry has also been active in the M.I.T. Alumni Association, serving as honorary secretary since 1937.

Proctor Portrait Unveiled

MORE than 100 Alumni of the Institute attended a special dinner given at the M.I.T. Faculty Club on June 14 for officers of the M.I.T. Alumni Clubs and members of the M.I.T. Educational Council. They came from 25 states and five foreign countries.

One of the highlights of the occasion was the unveiling of a portrait of Redfield Proctor, '02, life member of the M.I.T. Corporation and President of the Vermont Marble Company, by Karl T. Compton, Chairman of the M.I.T. Corporation.

The portrait was commissioned by the Institute for the M.I.T. Faculty Club in recognition of Mr. Proctor, a member of the Class of 1902, whose generous gifts on behalf of his Class made possible the adaptation and equipping of the new M.I.T. Faculty Club quarters. It was executed by Gardner Cox, '32, well-known Boston portraitist.

A former governor of Vermont and former president of the New England Council, Mr. Proctor has a record of long service to government, industry, and education. He has served in both the House of Representatives and the Senate in Vermont, is a former member of the board of directors of the U.S. Chamber of Commerce, and has been active in the National Association of Manufacturers. He is a trustee of Middlebury College and during World War I was a captain in the Engineer Corps.

Mr. Proctor holds membership in a number of professional services, and fraternal organizations, including American Society of Mechanical Engineers, Vermont Society of Engineers, Sons of the American Revolution, and the Newcomen Society.

Faculty Promotions

PROMOTIONS on the Faculty of the Institute which became effective July 1 were announced on June 22, by President Killian.

Members of the Staff promoted to the rank of assistant professor include Richard C. Booton, Jr., '52, of Lexington, and Kenneth N. Stevens, '52, of Waltham, both of the Department of Electrical Engineering and George Economos, '51, of Boston, Department of Metallurgy.

Promotions to the rank of visiting assistant professor include Eliezer Mishkin of Cambridge, Department of Electrical Engineering; and Heinrich A. Medicus of Newton, Department of Physics.

Promoted to the position of Industrial Liaison Officer is Harold R. Lawrence, '52, of Cambridge.

New appointments to the M.I.T. Staff with the rank of associate professor include Major Vernon E. Robbins, Department of Military Science; and Commander Jack A. Obermeyer, '41, Department of Naval Architecture.

Appointed to the Staff as assistant professor are Albert Bush-Brown, Department of Architecture; Herman W. Lewis, Department of Biology; Andrew B.

Humphreys Honored

WALTER Humphreys, '97, Secretary of the M.I.T. Corporation, received a certificate of appreciation commemorating his 25th year in that post at M.I.T.'s 88th commencement exercises. The citation, the first of its kind ever to be made at an M.I.T. commencement, was presented by Karl T. Compton, Chairman of the M.I.T. Corporation. It read as follows:

Loyal alumnus and faithful friend; keeper of seals, records, and consciences; sometime sailor and astronomer; student of nature; editor and teacher; man of many hobbies and varied interests.

Since 1899 you have served M.I.T. with inspiration and for 25 years you have been the diligent Secretary of her Corporation. You have been a wise advisor whose heart has always moderated every decision of wisdom and experience.

Few have given the Institute so much for so long; none has been more conscientiously devoted to her welfare. In token of all you have done for her, your *Alma Mater* awards to you this certificate of appreciation.

Born in Dorchester, Mr. Humphreys graduated from M.I.T. in 1897. After spending two years with various engineering firms, he joined the M.I.T. Staff as registrar in 1899 and has been associated with M.I.T. or the M.I.T. Alumni Association in a variety of capacities ever since. Mr. Humphreys has also held a number of positions of importance in the wool industry, including the posts of secretary-treasurer of the National Association of Wool Manufacturers, treasurer of the Associated Wool Industries, and secretary of the code authority of the Wool Textile Industry.

Jack, School of Industrial Management; Irving H. Bartlett and Joseph D. Everingham, Department of Humanities; Paul Pasley, Department of Mechanical Engineering (Mr. Pasley's appointment will not become effective until September 16); and Lee C. Bradley, Department of Physics.

New members of the visiting faculty are Eugène W. Burgess of the National Planning Association, Professor in the Department of Economics; Robert M. Saunders of the University of California (Berkeley), Associate Professor in the Department of Electrical Engineering; and Herman E. Koenig, University of Illinois, Assistant Professor in the Department of Electrical Engineering.

Changes of appointment include Henry M. Paynter, 10-44, of Reading, formerly Assistant Professor of Civil Engineering, who will become an assistant professor in the Department of Mechanical Engineering; Mason Smith of Groton, Professor in the School of Industrial Management, who will become a consulting professor in that Department; and Major Franklin B. Moon of Belmont, Assistant Professor in the Department of Military Science, whose appointment to the rank of associate professor in that Department became effective April 1.

BUSINESS IN MOTION

To our Colleagues in American Business ...

Many of the millions of people who travel and live in trailers follow a somewhat regular routine. They trek south for the winter, and stay put for months. Then they motor north to a summer place. South or north, they have a need for awnings. You would not think that there would be any special opportunity for improvement in awnings for trailers, yet Revere and an awning manufacturer found one.

These awnings have to be demountable, storable in small space during transit, and of course should be light. An awning maker had been making rafters out of steel tube, in sizes to permit telescoping to save space. Could we save weight without sacrificing strength by supplying aluminum tube? We knew we could, since there is an aluminum tube that is as strong as the steel tube that was being used.

After a careful analysis of the requirements, specifications were set up, and a sample order placed. The specifications included not only the strength of the tube, but also careful control of dimensions, so the two sizes would mate for telescoping, with clearances that would be close, yet not too tight to present problems to the trailer owner.

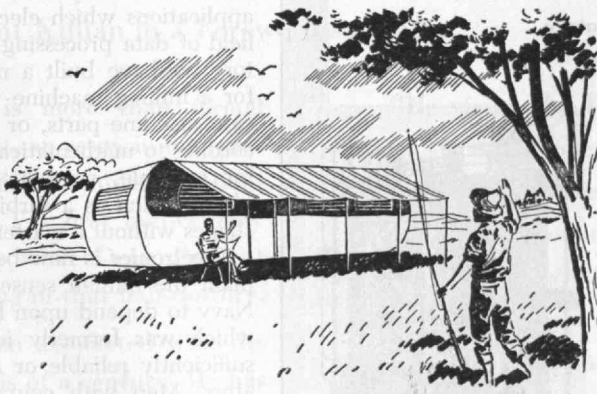
The sample aluminum tube order was thoroughly checked in manufacture, then tested mechanically for strength and for ease of handling in a trailer park. The aluminum rafters made of this tube proved to be easily fabricated, and they withstood the loads im-

posed by wind and rain. They are much lighter, look much better, and the customer reports he realizes economies.

An important thing to remember about this case is that Revere makes tube and pipe in copper and copper alloys, in aluminum alloys, and also electric welded steel tube. This presents a wide choice, and makes it possible for us to recommend exactly the metal and form that will best fulfil the needs for each application. Diversification of Revere Products produces benefits for all.

Revere not only makes aluminum tube, but also aluminum extruded shapes, forgings, electrical bar, coiled and flat sheet. In addition, copper and copper alloys in the same and other forms, plus rolled mouldings and lockseam tube in various metals and alloys. The complete list of Revere Products takes a full page. The Revere

policy is to collaborate as closely with customers as possible. Sometimes we recommend an item that will cost less per pound than what he has been buying. Sometimes we prove that paying a little more per pound will save important sums in processing and improve product life and appearance. Either way, we try to save money for our customers or enable them to make better products. Most other suppliers to industry have the same attitude and policy, so we suggest you consult with them to add their knowledge and experience to yours, for mutual advantage.



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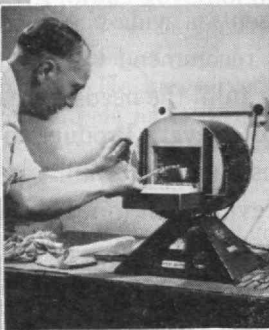
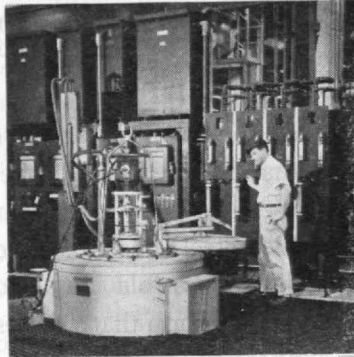
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Industrial

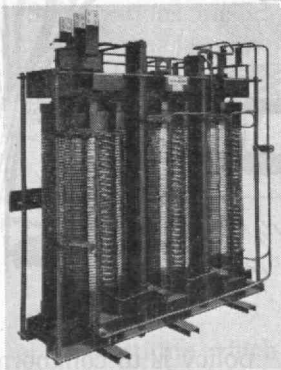


Laboratory

Dry Type
Air-Cooled

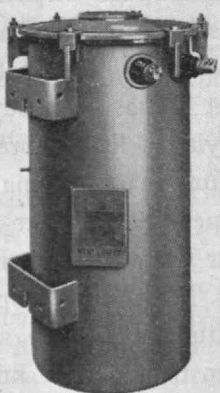
TRANSFORMERS

2 VA to
2000 KVA



Static Type

CONSTANT CURRENT REGULATORS



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used, again in a wartime application, to power the submarine *Nautilus* but it has other potentialities.

In 1946, shortly after the end of the War, M.I.T. established the first college course in nuclear engineering. A few days ago President Killian announced that the next step had been taken and that the Institute would acquire and operate, for civilian and training purposes, the first atomic reactor in New England. This device will be devoted to teaching and the study of research materials. The reactor will be designed by civilians for civilian use, and will be a device of inherently high safety. It will be used to a large extent in physics and biology, but also in conjunction with our course in mechanical engineering. This reactor, and the advanced design it represents, is clearly within the tradition of M.I.T. progress, and we must now take the lead and acquire first hand knowledge in teaching nuclear engineering. President Killian has also announced the building of a new structure for the Laboratory of Nuclear Science and Electronics. The Institute's Electronics Laboratory is itself an outgrowth of the wartime Radiation Laboratory.

The electronics field is an exceedingly fascinating one which I find difficult to keep up with. The things to be done in this field are legion, and we may expect to witness much from this comparatively new branch of electrical engineering.

As has already been mentioned, one of the important applications which electronics opens up for us is in the field of data processing. In our Servomechanism Laboratory we have built a numerically controlled mechanism for a milling machine which is able to reproduce intricate machine parts, or even to generate new shapes according to mathematical data punched on a card. It can, for example, reproduce metal parts of extreme complexity, such as a turbine or airplane blade, or cut new shapes without a master pattern.

Electronics is now being used to supplement and supplant the human senses. It was long a tradition in the Navy to depend upon human skills on the assumption—which was formerly justified—that no machines were sufficiently reliable or accurate to replace human operators. Men with courage have insisted on relying on judgment and the human senses unaided by instruments. But this is no longer true. Jet fighters have attained such great speeds that man is no longer able to respond with sufficient rapidity to control such aircraft for his own safety. Man is too sluggish to respond as required when times of milliseconds, or even microseconds, are matters of prime importance. Yet we can build electronic devices that are able to respond to such time intervals and that can aid man's own senses as the need arises.

Again, the operations of the nation-long pipe lines or of the railroads that span our country depend on newly created devices that record statistics and transmit orders automatically. The problems represented by these achievements are not limited to any particular form, or for that matter, to any particular kind of technical profession.

Indeed, it now appears that the traditional professional fields themselves are rapidly changing, and the old lines of course demarcation no longer satisfy their earlier purpose. The old boundaries seem to be crumbling, or possibly, it is the cohesiveness of the M.I.T. family that make this appear so at the Institute. Men trained at M.I.T. are broad in their outlook, and we are turning out fewer and fewer narrow specialists.

(Continued on page 486)

A SMASH HIT!

*The record of the Institute's early
struggles and triumphs*

WHEN M.I.T. WAS "BOSTON TECH"

by Dr. Samuel Cate Prescott, M.I.T. '94

When M.I.T. Was "Boston Tech" records the history of M.I.T. from its beginning — a memorandum written by William Barton Rogers on March 13, 1846, entitled "A Plan for a Polytechnic School in Boston" — to the transfer of the Institute to its home on the Charles in Cambridge in 1916. Told in terms of men who built the Institute, this volume is history in the richest sense. . . . President Killian in a Foreword says of it:

"This book, happily, is more than formal history. It is a personal report, an essay in interpretation and remembrance which is important both for what it tells about M.I.T.'s first half-century and for what it tells about what Dean Prescott finds important and interesting in that half-century.

"Dean Prescott has been associated with the Institute for nearly two thirds of a century. He has known all of its presidents save Rogers, the founder. He has known the Institute from the vantage points of student, teacher, department head, dean, alumnus, and parent. He has had a formative influence on its policy-making and he has been an articulate protagonist of the Institute's program and policies. It is important that a man with this long and various experience at the Institute should write interpretively of its history.

"He views M.I.T.'s formative years not only with an expert's understanding but out of a deep sense of loyalty and devotion. This book is a testament of faith in an institution, an earnest of the author's abiding belief in the staff, students, and alumni he has known. Those who have had the privilege of knowing Dean Prescott and working with him will understand why this is true and will cherish this book as another example of his generosity of spirit and his deep commitment to his Alma Mater."

All royalties from *When M.I.T. Was "Boston Tech"* have been assigned by Dr. Prescott to the Alumni Fund.

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When M.I.T. Was "Boston Tech". Please mail by prepaid parcel post to:

THE NEXT 10 YEARS

(Continued from page 484)

Our transportation system is a patchwork quilt that could very well stand engineering of the highest talent; it has been allowed to grow without any overall coordination or effective planning. Each type of transportation system has its own particular benefits and is able to provide a particular kind of service, but these are in no way related; the engineering and economic planning, on a national scale, is badly done. The nation's transportation organizations should provide maximum performance for all transportation requirements and at minimum costs. The problems confronting us cry for solution; here is great opportunity for engineers and engineering to go to work.

In the field of engineering construction, engineers likewise have great opportunities. We should be building our structures with an eye to "unpleasant possibilities" with which we may be confronted. For many years, structures have been built to withstand earthquakes, or at least to minimize damage by earthquakes; our need is of the same kind. I do not propose, of course, that all of our buildings be bomb proof or bomb resistant; but structures should be built at reasonable costs and designed for minimizing damage from bomb blasts.

Sanitation is a continual problem; it becomes more important every day as our water supplies show inadequacies for our present needs, as our population grows, and as we dump industrial wastes into streams, rivers, and lakes. Here is another field for engineering.

Engineering problems in the field of prime movers are overwhelming, especially since we now have all kinds of

prime movers, but few of which are truly engineered. Each new art which we create brings with it the need for new equipment; in some fields engineering is still in the stage of an art rather than a science. In these fields metals play an important role, and here again there are great opportunities for the metallurgists to go to work and contribute to our welfare.

The improvement of prime movers requires new metals able to withstand high temperatures — or perhaps the design of newer ceramics if the temperatures are beyond the melting points of metals. Such materials are in dire need now with the development of gas turbines and jet engines. Great opportunities exist for the development of metals and alloys having high strength at high temperatures; we are just entering this field.

Electrical engineering is in the throes of what may well be a new revolution. It is taking a new look at magnetism, at servomechanisms, and at energy conversion devices. The development of transistors, and a good knowledge of semiconductors, make the applications and theory of electrical engineering much more difficult — but also more interesting — than it was a score of years ago.

To the achievements in chemical engineering, we must now add the new field of nuclear engineering, about which I have already made some reference.

The high rates of combustion at which some of our engines operate demand thorough engineering research. The need seems to be greater in aircraft engines than in the field of marine engines. Yet we must recognize that, in the past decade, the speed of ships has nearly doubled, and the carrying capacity has been quadrupled.

(Continued on page 488)



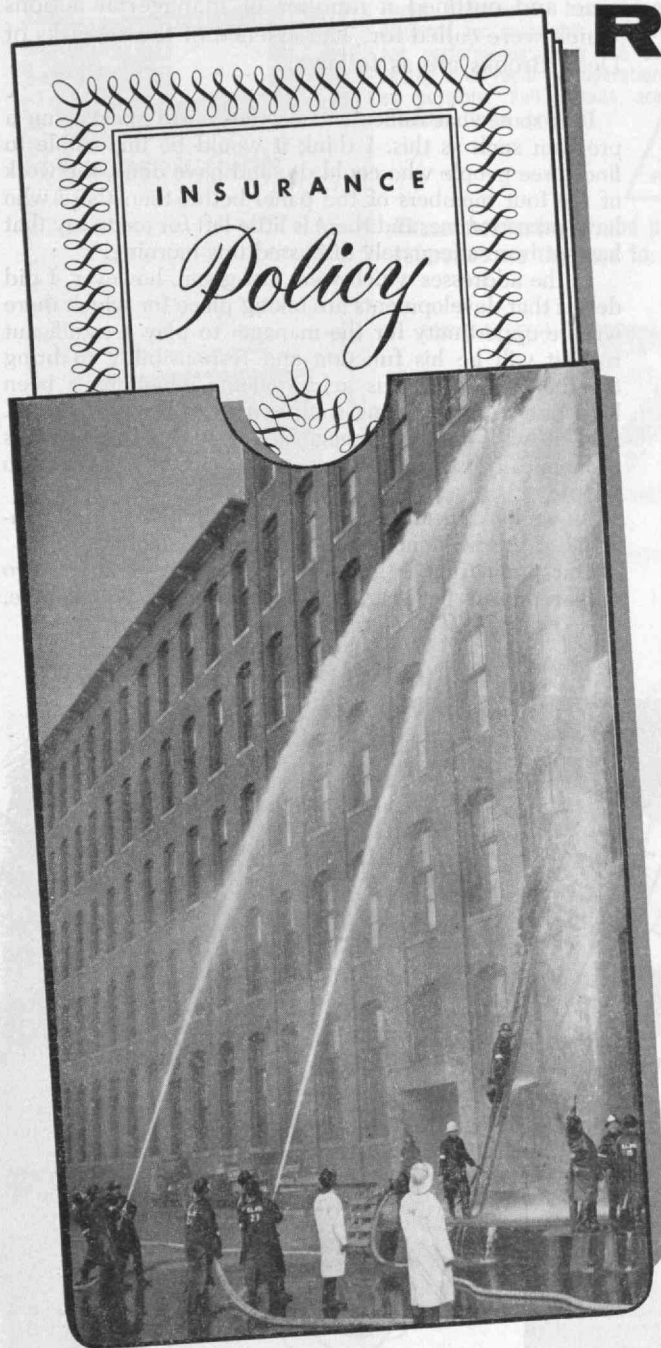
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THE NEXT 10 YEARS

(Continued from page 486)

In aircraft, the design fighters pose new problems. We build aircraft with sharp wings, and with a small amount of space allotted to the pilot, the rest being given to guns or control equipment. These modern aircraft must withstand terrific acceleration and deceleration. For years aircraft engineers have talked of crossing the sound barrier — or traveling at speeds in excess of the velocity of propagation of sound; today we take this for granted. We need greater safety in aircraft, and the disasters which occur tell us what we need; they but slightly delay our progress in achieving safety with speed.

At M.I.T. we have recently combined our Course in Building Construction and Engineering with that in Civil Engineering. This was done not because the two have the same kinds of problems, but merely because there is a kinship between the two which makes their administration easy; we must recognize that building engineering also has an important relationship and kinship with architecture.

In the field of food technology we have made good progress, but the engineering still required is extensive and the opportunities for engineers to engage in food manufacture, processing, and packaging are great. In the process, however, let us not engineer out of life the pleasures of our daily meals.

And now I come to our ground rule number three which I have postponed for some time. I would set this ground rule as follows, "Let us keep our powder and the A bomb bay dry, and keep the H bomb locker locked."

What Management Can Do

As final speaker on the symposium program, E. P. Brooks, Dean of the School of Industrial Management was introduced by Karl T. Compton. Drawing upon his very considerable business and managerial experience, Dean Brooks took his cue from the possibilities mentioned by Dr. Bush and Admiral Cochran and outlined a number of managerial actions which were called for. The essence of the remarks of Dean Brooks are as follows:

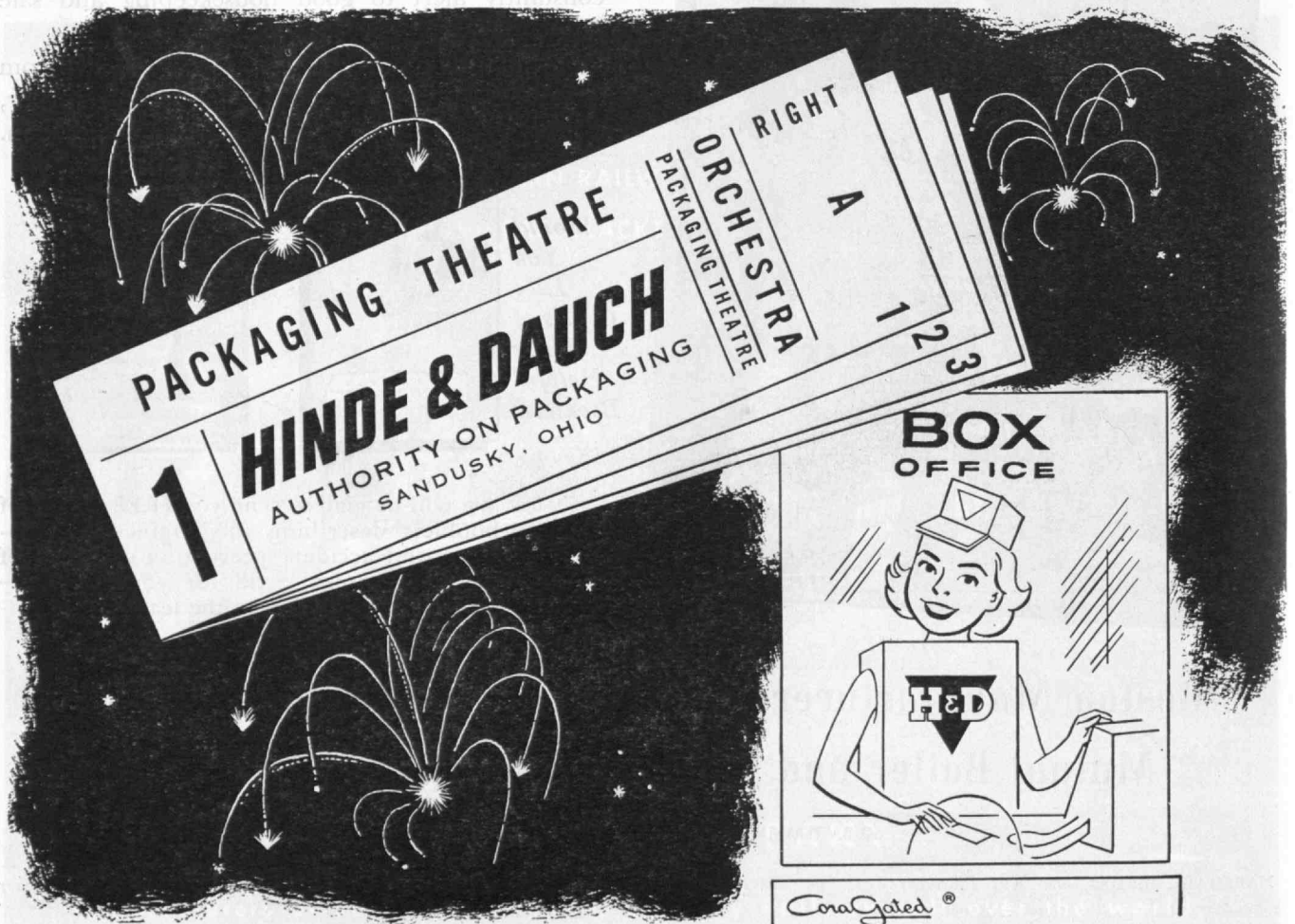
It is somewhat difficult to be the fourth speaker on a program such as this. I think it would be impossible to find three people who could do, and have done, the work of the four members of the panel better than those who have preceded me, and there is little left for me to say that has not been adequately discussed this morning.

In the addresses which were just given, however, I did detect that developments are taking place for which there will be opportunity for the manager to play a significant role; it will be his function and responsibility to bring together the marvelous achievements which have been held out as forthcoming in the reasonably near future. And it will be the manager's job to do these things economically, so that a real service can be rendered to people.

As we look ahead, it seems to me the task of the managers of business enterprises will be stupendous.

Our population is growing at the rate of about two million persons per year. In the last 10 years, for example,

(Continued on page 490)





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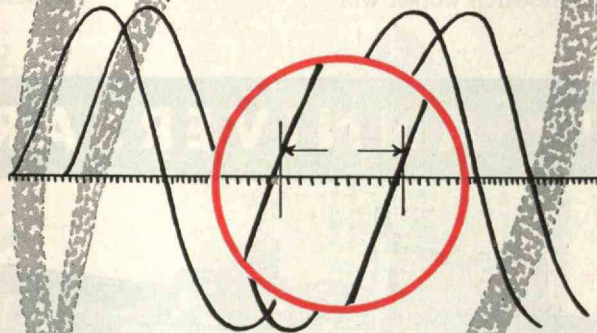
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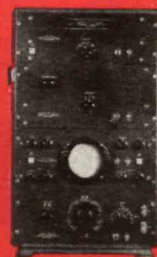
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THE NEXT 10 YEARS

(Continued from page 488)

the increase in population in the United States has been two and a half times that of Australia, one and a half times that of Canada, and six times that of Norway. The demands which will be made by the increase in population are very large, indeed. Those of us who live on the Eastern seaboard are probably not too keenly aware of this population growth, because it has been absorbed in our existing cities, towns, and villages; we witness an increase to be sure, but this is not of the startling kind that makes a big impact on us. But if we go to the mid-west or to the southwest, we discover villages, towns and cities that are completely new — that did not even exist a decade ago — and that are now making huge demands on our economy. We then begin to see and realize that the rate of increase of our population makes demands way beyond anything that we have yet seen, and as a corollary we must face the fact that the task of production is huge.

How is this new demand to be met? Those of us steeped in tradition will probably first of all think in terms of enlarging the size of our manufacturing plants. The big plants will obviously grow bigger and even the small ones will grow large. This is, of course, one way in which increased production could be achieved.

But such a point of view builds up on the past without taking into account the fact that new demands will require new enterprises which cannot be developed by increasing in size, for some of these enterprises themselves do not yet exist and need to be created. These are the enterprises that the inventor and the research worker will

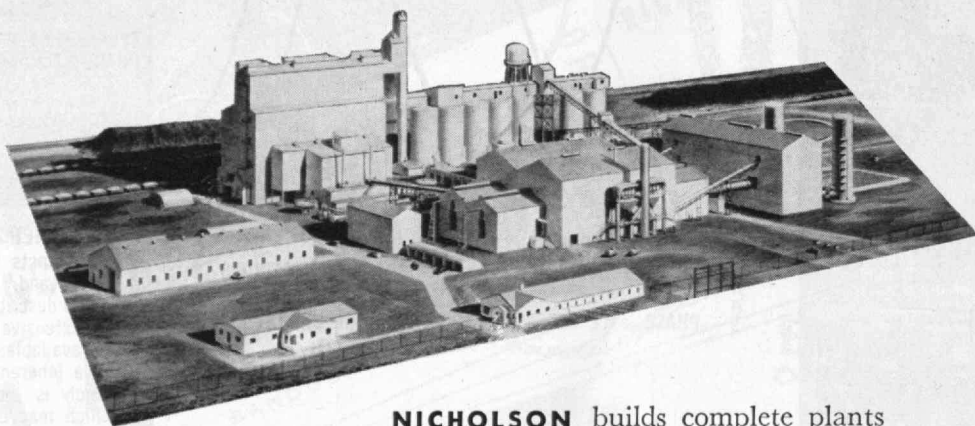
bring into being. At the present time, about 400,000 new enterprises are initiated each year despite the discouragement which our tax structure brings forth. Of course there are many casualties among the 400,000 new businesses and we would prefer to see these casualty figures decrease.

In meeting the demands of the future, management is obviously an important factor, and must be seriously considered. We come then to the question, "What can management do?" It seems to me there is one thing that management can do and that this is really its primary obligation. That is described by the word "decentralization." When we use the term "decentralize" many will think of breaking up our productive facilities into smaller units which are then distributed over a larger area than before. This is part of the picture, of course, but I think it is a small part. There should be much more involved in decentralization, if we are to make progress and avoid the evils of absentee management.

But to me, decentralization also means the distribution of decision making policies in order to build an organization capable of having leadership at the point of action. Of course, this is not a new concept in business. But it is not universally or invariably present in business enterprises today. The need for such decentralization is only beginning to be felt in large organizations which operate under one roof. These are, for the most part, the huge organizations, but the same kind of decentralization is equally applicable for firms employing 100 persons or less. How many of us are familiar with the one-man organization, in which all actions and decisions turn about the knowledge and ability and energy of one per-

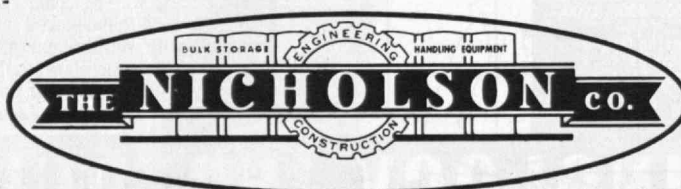
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OUR 40TH ANNIVERSARY YEAR



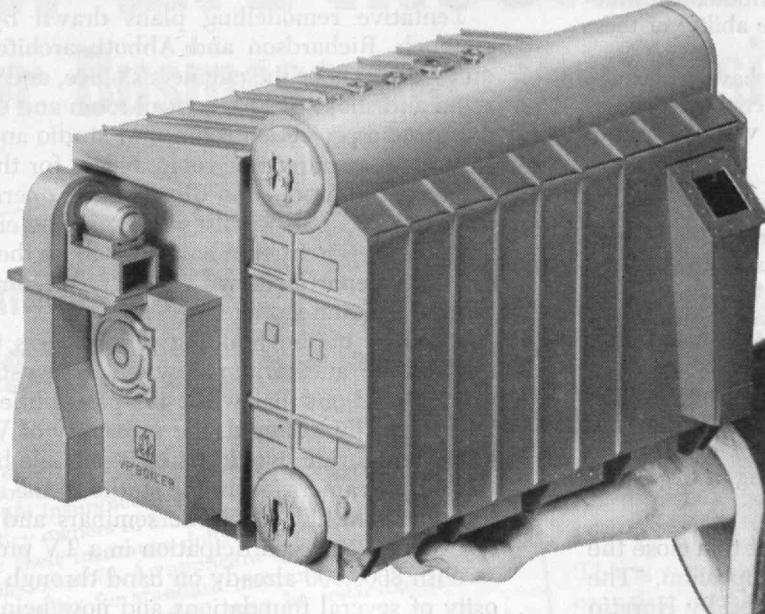
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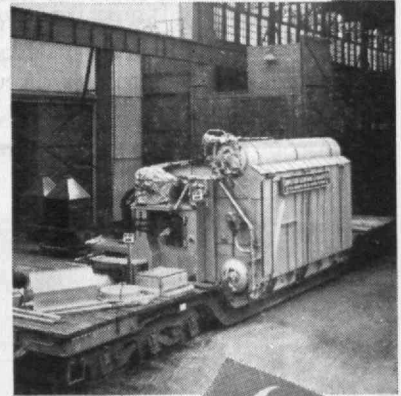
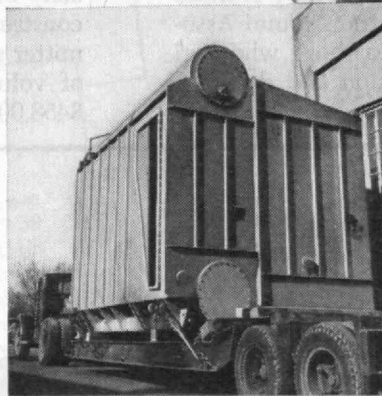
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THE NEXT 10 YEARS

(Concluded from page 490)

son? In such organizations there is no opportunity for creative accomplishment, except for the one man who is the leader, and we do not utilize the abilities of others who may be willing and able to contribute, constructively and creatively, to the project. The ability of these persons should certainly be utilized.

What is meant by decentralization? I have given you some thoughts on this subject as it affects our factories and our industries. But there is another vastly more important phase which we should discuss.

With all the tools of modern industry and with all of the great achievements which management can bring into being, let us not lose sight of the fact that our most important resource is man himself; he is at the core of all of the many problems that we face. Man is a creative animal, and he derives his greatest satisfaction from partaking of his creative instinct. We must recognize this fact and feed him and encourage him to develop this creative instinct. It seems to me that decentralization provides the most effective mechanism by which the opportunities for creative accomplishments of men can be made available to and distributed among the greatest number of persons.

The address by Dean Brooks brought to a close the formal portion of the Alumni Day Symposium, "The Next 10 Years." The exercises were ended by Horatio L. Bond, '23, who, as President of the Alumni Association, expressed sincere thanks to those who had taken part in the morning's discussion and declared the meeting adjourned.

THE TREND OF AFFAIRS

(Concluded from page 460)

105 feet, and is unimpeded by columns. This large, open space with a 20 foot height is considered ideal for television production purposes.

Tentative remodelling plans drawn by Shepley, Bulfinch, Richardson and Abbott, architects, locate on the main floor the engineer's office, and equipment room and shop, the TV control room and observation platform, a projection room, FM studio and FM control room, a conference room, offices for the program director, the production director and operations, and a lounge and receptionist's space at the entrance.

On the reconstructed balcony will be the kinescope and film department with a cutting room and tape library and film storage.

The rear of the building gives access to M.I.T.'s modernistic auditorium now under construction. It was pointed out that while the possibilities have not been formally explored, the proximity of WGBH-TV to the auditorium would make it possible by a simple transfer of cameras from the studio to the auditorium to televise M.I.T. scholastic seminars and functions, or even audience participation in a TV program.

With \$600,000 already on hand through the generosity of several foundations and now being used for construction purposes, including erection of the transmitter station on Great Blue Hill in Milton, hundreds of volunteer workers are now seeking to raise the \$453,000 needed for operating funds.



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Low as the premium rates are, this policy builds high cash and loan values fast—equal to the full reserve at the end of the seventh year. For example, the seventh year cash and loan value of a policy taken out at age 25 is \$92 per \$1,000; at 35, \$123; at 45, \$164; and at 55, \$213. The low premiums, high cash values, and dividends combine to make this policy unusually attractive. Get details from your New York Life agent!

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The New York Life Agent in Your Community is a Good Man to Know

Now! *Low-cost* life insurance you can afford *today* builds **HIGH CASH VALUES** fast—helps you protect your family and build for your future, too!

Countless business and professional people are faced with the twofold problem of maintaining their living standards at today's high costs and setting up the kind of *future* financial security they'd like their families—and themselves—to have.

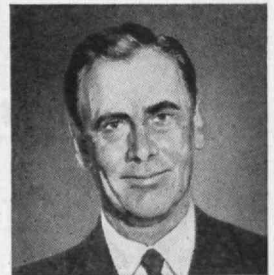
For these people, New York Life has developed a new life insurance policy—one which is remarkably low in premium cost, yet builds up high cash values quickly.

This new policy is, in effect, life insurance in the "economy size" package. Since the minimum amount is \$10,000, economies are possible which keep the premiums low.

So if you've been meaning to take out more insurance—but have been putting it off because you think you can't afford it—ask your New York Life agent about this new policy or mail the coupon today!



Ideal for men with the problem of providing a good living for their families *today* and, at the same time, building security for the years ahead.



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COMMENCEMENT AND ALUMNI DAY

(Continued from page 476)

Alumni Day Activities

On Monday, June 14—a rather chilly and gray day—the Registration Desk was opened at 8:15 for Alumni to pick up their tickets or for late comers to register for events of the day. At 10 P.M. the nationwide Civil Defense "Operation Alert" took place. Thus was the gravity of international affairs unintentionally brought to the attention of Institute visitors, Faculty, and staff.

At 10:30 the Alumni Day Symposium was held in the Hayden Library Court. Speakers for this conference, entitled "The Next 10 Years" were Karl T. Compton, who opened the symposium and introduced Vannevar Bush, '16, Dean E. L. Cochrane, '20, and Dean E. P. Brooks, '17, scheduled speakers for this event. The Review is happy to present its own report of these stimulating addresses, beginning on page 467 of this issue.

Alumni Day Luncheon

As has been customary for the past few years, President Killian used the Alumni Day Luncheon as the means for presenting his annual report on the state of the Institute. Incidentally, this year marks the fifth year of Dr. Killian's presidency, and the 50th anniversary of the first Alumni Reunion.

In opening the addresses after the luncheon, President Killian commented on the certificate awarded to Walter Humphreys and, as recorded on page 482, presented him with a set of bone china plates—numbered 97, in gracious recognition of the fact that Mr. Humphreys is a member of the Class of 1897. Second to be remembered for honors was Jerome C. Hunsaker, '12, for whom a new professorship in aeronautical engineering has been created, as is also recorded on page 479.

President Killian called on Alumni to join together to strengthen the democratic ideals of social justice, freedom, and individual dignity. "We have an obligation," he declared, "to resent every encroachment upon these ideals and every act which erodes away this freedom and this dignity. We must cultivate and demonstrate the moral idealism which must underlie the strength of our society."

(Continued on page 496)

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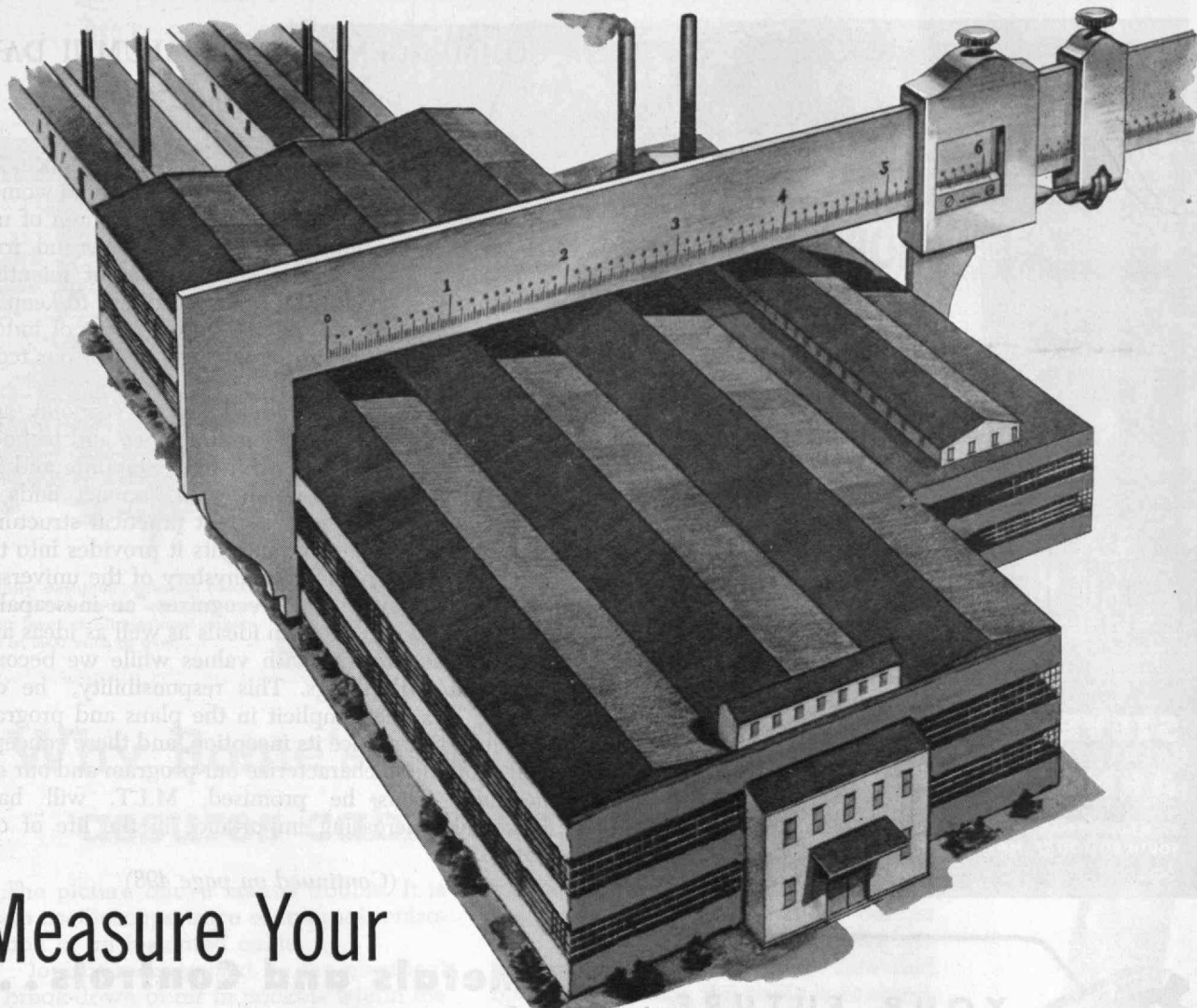
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JULY, 1954

495

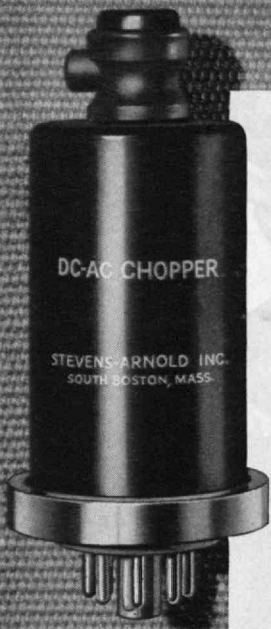
(Continued from page 494)

"Ours is the opportunity," he told his audience, "to give a pilot-plant demonstration that men and women may live and work together with a minimum of unfriendliness, meanness, carping criticism, and irresponsibility." The great responsibilities of scientists and engineers today, Dr. Killian said, are to keep us moving ahead steadily in the development of industrial technology and in the management of our technological industry.

"While serving the nation's safety, economy and industrial development, men of science and technology also serve man's need for understanding and for spiritual growth. Indeed," he said, "science finds its fulfillment not only in the great practical structures it creates but also in the insights it provides into the order, the majesty, and the mystery of the universe."

The Institute, he said, recognizes "an inescapable responsibility to deal with ideals as well as ideas and to concern ourselves with values while we become proficient with things. This responsibility," he declared, "has been implicit in the plans and program of the Institute since its inception, and these concepts will continue to characterize our program and our education." Thus he promised, M.I.T. will have a steadily increasing importance in the life of our nation.

(Continued on page 498)



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R. M. Glidden ... 1926

E. P. Jastram ... 1935

S. Siegel ... 1943

H. Graetz ... 1944

R. W. Hood ... 1945

C. A. Patterson, Jr. ... 1945

F. P. Stearns ... 1946

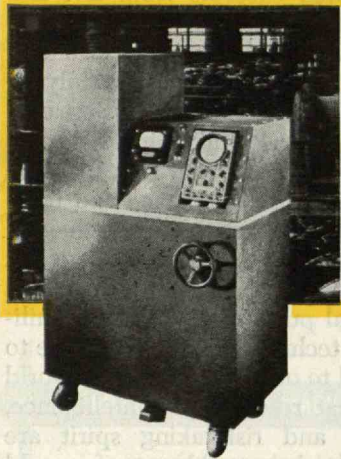
L. E. Cooper ... 1953

George Williams ... MS1939

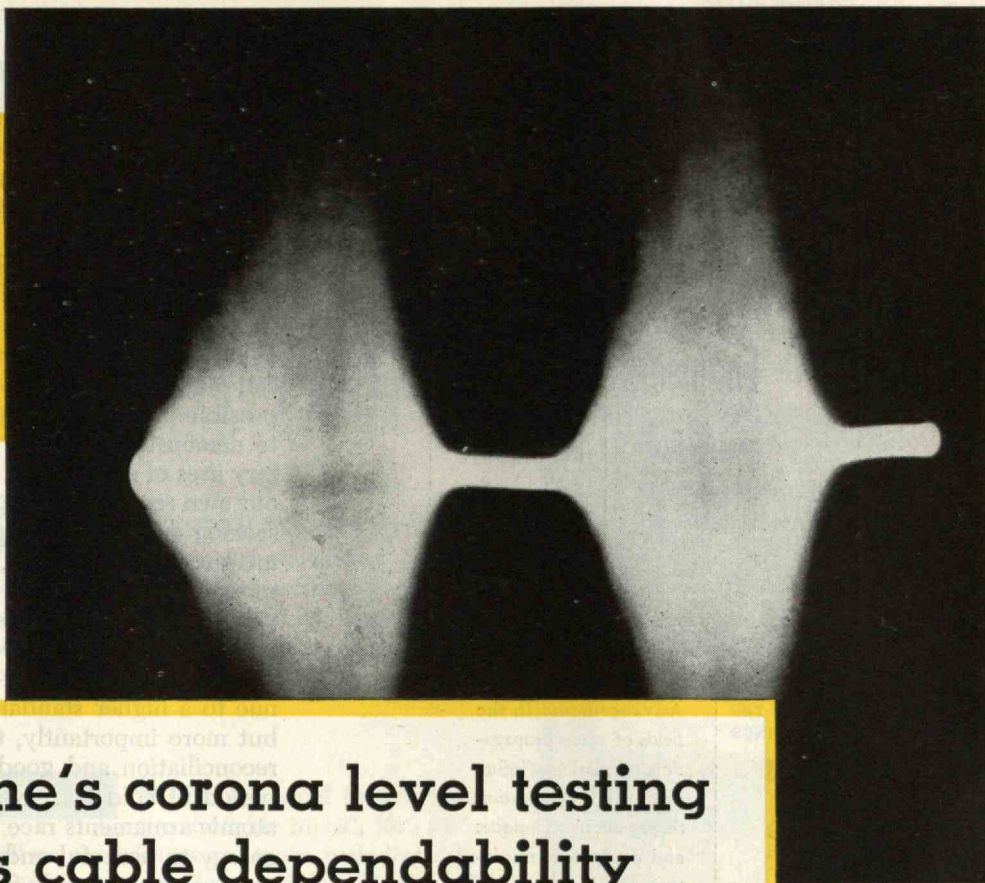
George Matteson ... MS1953

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Specially designed ionization detector for routine factory use measures corona level of all-insulated cables rated at 3000 volts or over.



Why Rome's corona level testing assures cable dependability

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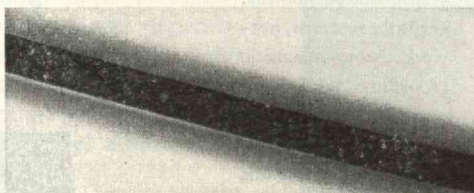
Ionization is caused by the electrical break-down of air in pockets within the insulation, or between the insulation and conductor or shield. Should this ionization occur at a value below the operating voltage of the cable, several destructive electrical effects may occur such as possible ozone cutting, reduced dielectrical strength, and a substantial increase in dielectric losses. Any of these hazards could result in early failure or reduce the efficient performance life of the cable.

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..... Rome Power and Control Cable Catalog
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(Continued from page 496)

Following are additional excerpts from Dr. Kilian's annual report to M.I.T. Alumni:

"Though we must build bombs in a world out of joint, we will move ahead into a better time only by improving the lot of mankind and addressing ourselves to more noble ends than atomic might. The use of science for defense is necessary, and we cannot be strong without it. But such use of science and technology is not a natural or satisfying use and in the end can only thwart and distort their true spirit. Is it not possible that bold and imaginative acts by Americans to demonstrate the moral purpose and the non-military uses of science and technology can contribute to our own reassurance and to our leadership of a world seeking peace? Our great resources of intelligence, imagination, ingenuity, and risk-taking spirit are moral forces that can lead a world out of a cold war. Science, with its spirit of creativity, its search for understanding, its dependence upon freedom and good will, and its world-wide currency, offers an avenue to a higher standard of living for all the world, but more importantly, to a resurgence of a spirit of reconciliation and good will among nations. In this period of cold war, we are engaged not only in an atomic armaments race but in a race to apply atomic energy to peaceful and beneficial use. This is a race we must win not only for our own welfare but for our influence in the community of the free world.

"For the fifth successive year donations to M.I.T. have exceeded \$5,000,000. The needs, the opportunities, and the responsibilities of the Institute warrant an all-out effort to maintain and augment in future years this level of donations.

"It is pleasant to report that the demand for M.I.T. graduates continues high. In fact, more companies sought men at the Institute this year than last. A total of 325 different employers sent representatives to the Institute to interview students; and 400 additional companies invited students to visit them or to apply for jobs, thus making a total of over 700 employers who look to M.I.T. for men.

"It is interesting to note that from one-quarter to one-third of our students, year in and year out, go into graduate study, a figure that probably will increase for each class when those who are in military service are free to continue study.

(Continued on page 500)

Communication Engineers

with experience in the fields of

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THE OPENINGS

Advancements in the fields of wave propagation, translation of information, communication theory, circuit techniques and equipment miniaturization have created a number of new openings for qualified engineers in the Hughes Advanced Electronics Laboratory.

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The communication group is concerned with the design and development of unique radio communication systems and with exploiting new radio communication techniques. Specialists in propagation phenomena, antenna systems, network theory, magnetic recording, wide-band amplification, and intricate electromechanical devices are active in this program.

Assurance is required that relocation of applicant will not cause disruption of an urgent military project.

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WESTON panel instruments are available in 1½", 2½", 3½", 4½" and 5½" sizes in all required ranges and types, including d-c, a-c, rectifier and thermocouple types. Approved ruggedized and sealed instruments available in all types in 2½" and 3½" sizes. Special panel bulletins give complete information.

FOR RPM MEASUREMENTS —

WESTON electrical tachometer indicators are available with scales calibrated in RPM, or any function of RPM, such as feet per min.—pieces per hour, etc. Indicators can be mounted remotely; and if required, more than one indicator can be operated from one generator. Special compact, lightweight a-c and d-c generators permit wide flexibility in mounting and connection arrangements. Directly indicate speeds from 1 RPM to 40,000 RPM or higher.

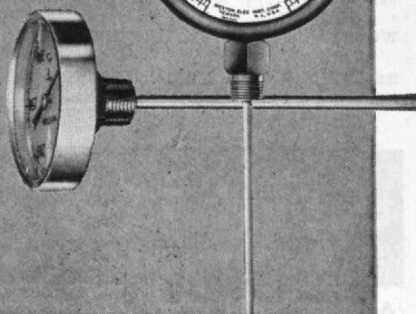
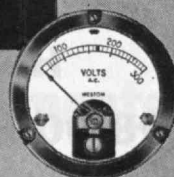
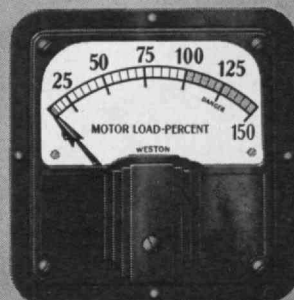
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CITIES SERVICE
QUALITY PETROLEUM PRODUCTS

An Important part of the American Oil Scene

COMMENCEMENT AND ALUMNI DAY

(Continued from page 498)

"Based upon the numbers already enrolled in our grammar and secondary school system, it is clear that the numbers wishing to enroll in post-high school institutions may possibly double in the next 15 years. Should this enrollment increase occur, the United States will be faced with the problem of doubling the capacity of its system of higher education. If we are to provide the same amount of facilities per student throughout the country as we do today, this would mean that we would have to build as much college plant in the next 15 years or so as has been built in this country in the past three hundred.

"During the past five years, M.I.T. has gone through a great period of building, the greatest, in fact, since M.I.T. moved to Cambridge. In 1948 the value of our educational plant totaled 19½ million dollars. At the end of this year, the value will stand at over 34 million dollars. This building program has largely done the job of providing the modernization for the educational and living facilities we need, but an institution such as M.I.T. inevitably finds that the obsolescence of educational facilities in science and engineering are very great and that, perhaps more than most institutions, we have a problem of keeping up to date. An example of keeping up to date is the building of the nuclear reactor laboratory, the plans for which we announced at Commencement.

"We are witnessing important changes in our educational program at the Institute, and it would be my prediction that in the next five years we are going to see a steady progression in the art of teaching science and engineering. We have had a great development in the last five years in the strengthening of our humanities, social sciences, and general education. We look forward to still further development in this part of the program.

"There are in prospect many extensions of the great drive we have had to give increased emphasis to the humanistic and social sciences part of our program. But with all of this development in the areas of our School of Humanities and Social Studies, I would forecast that the most important changes will occur in our Schools of Science and Engineering. We may well be initiating profoundly important innovations in the teaching of engineering. It is invidious to cite examples, but I have time to report on activities in only one department.

(Continued on page 502)

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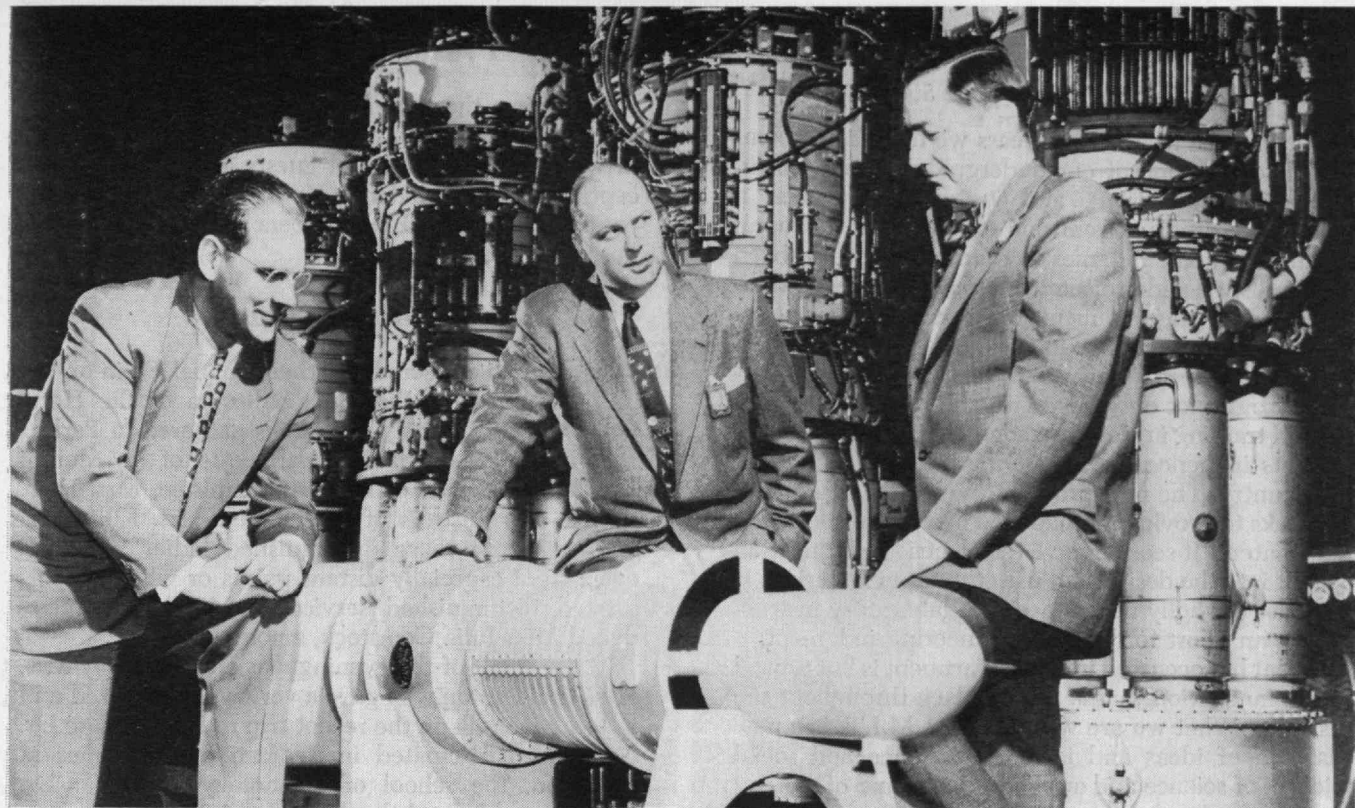
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SA-3



In front of a production line backdrop of J47 jet engines is a mock-up model of the G.E. new aircraft gas turbine engine being developed for helicopter applications.

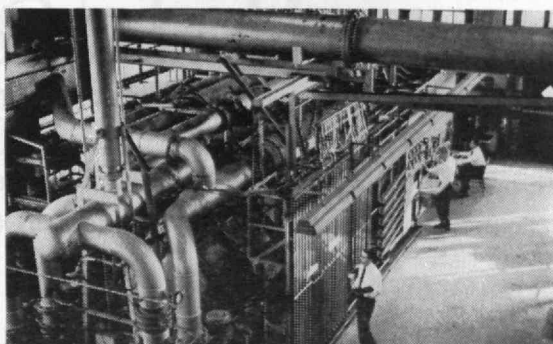
New Small Aircraft Gas Turbine Developments Create Opportunities at General Electric

GENERAL ELECTRIC ENGINEERS are today pacing the industry they pioneered 12 years ago when they developed America's first jet engine, and opened a new era in aviation. Now, working years ahead on new advances and improvements to power planes farther and faster than ever, they know the satisfaction and rewards the field and the company have to offer.

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SMALL AIRCRAFT ENGINE DEPT.

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COMMENCEMENT AND ALUMNI DAY

(Continued from page 500)

"During the past several years we have had a complete reorientation of our undergraduate program in electrical engineering, and just recently when a delegate visited us from one of the great electrical manufacturing companies to examine what has been accomplished and projected, the reactions clearly indicated that in his judgement something profoundly important had taken place in the education of electrical engineers and that this new program in our department would not only have great influence on the advanced training in electrical companies but would also have its influence in engineering schools throughout the country. The new program in electrical engineering seeks to provide a broadened and deepened scientific content. It seeks to give the electrical engineer an insight into the design and use of modern materials. It provides a wholly new concept of laboratory instruction in an effort to develop engineering judgment.

"What has occurred in this department is but typical of the innovation that is taking place throughout the Institute. What we are witnessing at M.I.T. is a new coalition of ideas and ideals, of science and social science, of science and applied science and of general and professional education—a coalition designed more adequately and fully to meet the increasingly complex needs of our society—an education up to date in its outlook and relevant in its content to the needs of an industrial society."

President's Reception

Following the Alumni Day Luncheon, President and Mrs. Killian followed a tradition of long standing in welcoming Alumni and guests at an informal reception in the President's House. Many of the class presidents of the 40 most recent classes assisted the hosts.

Ladies Banquet

As Alumni gathered for their annual Stein-on-the-Table Banquet in the main ballroom of the Hotel Statler, approximately 170 ladies gathered in Parlors B and C for the largest Ladies Banquet of any Alumni Day. As Chairman of Ladies Committee, Mrs. E. P. Brooks was mistress of ceremonies. Mrs. Killian remarked about those distinguished ladies who had come from especially distant points or who had performed distinguished service to M.I.T. and introduced Miss Julia Comstock, among others.

Major event of the evening was an address by Mrs. Karl T. Compton who gave a very well organized and informative talk on the recent trip to Israel where Dr. Compton participated in dedication ceremonies at Technion, the school of technology at Haifa. Dr. Compton addressed the Alumni Council on the same subject at its last meeting on May 24, and the substance of Dr. Compton's remarks is given in condensed form on page 480 of this issue.

(Concluded on page 504)

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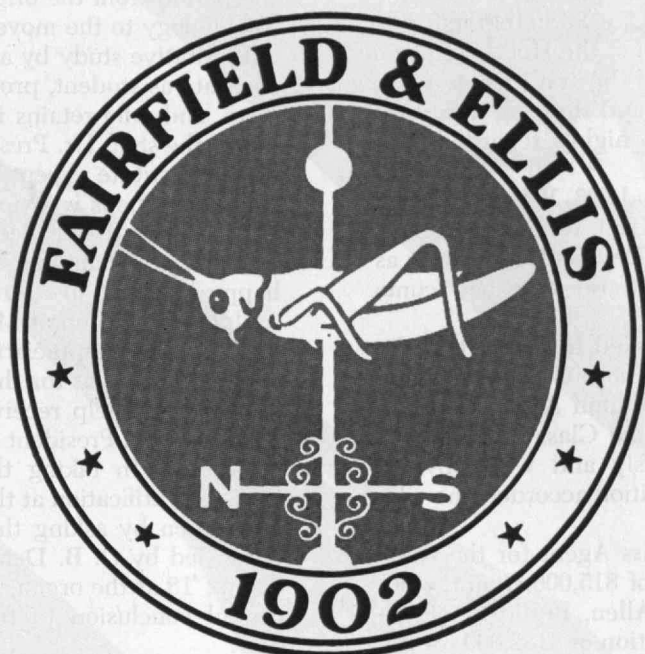
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M. H. Nickerson, V '37
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R. S. DeBell, IX '48
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BOSTON

COMMENCEMENT AND ALUMNI DAY

(Concluded from page 502)

Stein-on-the-Table Banquet

Monday evening, 787 Alumni — the smallest number reported in The Review during the last decade — held their annual Alumni Day Stein-on-the-Table Banquet in the grand ballroom of the Hotel Statler in Boston at 7:00 P.M. As usual the traditional steins, designed by H. B. Kane, '24, and showing a portrait of President Maclaurin were highly regarded souvenirs of the occasion.

After dinner, Horatio L. Bond, '23, President of the Alumni Association for 1953-1954, reminded the audience that June 14 was Flag Day, and, in his role as presiding officer, introduced those who had come from the greatest distances.

Horace S. Ford was then asked to conduct to the speaker's table Wolcott A. Hokanson, who was made an honorary member of the Alumni Association and also an honorary member of the Class of 1923. Mr. Hokanson responded graciously and with obvious pleasure at the unusual recognition accorded one who is not an alumnus of M.I.T.

Louis H. G. Bouscaren, Class Agent for the Class of 1904 presented a class gift of \$15,000 from the 50-year Class, and C. Brigham Allen, President of the Class of 1929, made a presentation of \$132,000 for the

25-year Class. Both were gratefully and graciously accepted by Karl T. Compton on behalf of the M.I.T. Corporation.

Dr. Killian then made grateful acknowledgement of a book entitled *When M.I.T. Was "Boston Tech,"* written by Dr. Samuel C. Prescott, '94, and published that very day. This history of the Institute, covering the period from the original plans for an Institute of Technology to the move to Cambridge in 1916, is an authoritative study by an Alumnus who has seen the Institute as student, professor, department head, and dean, and who retains interest as an emeritus member of the staff. Dr. Prescott has known all presidents of the Institute except the founder William Barton Rogers; his book is reviewed on page 457 of this issue.

Dr. Killian then called upon William B. Given, '08, to deliver the banquet address, which The Review is happy to bring to its readers (page 465).

Upon conclusion of Mr. Given's address, Mr. Bond expressed his appreciation at having been asked to serve as President for the past year, and his appreciation for the help received and introduced Hugh S. Ferguson, '24, President of the Alumni Association for 1954-1955. In taking the chair, Mr. Ferguson expressed gratification at the high honor bestowed upon him. Then by asking the audience to sing "A Stein Song" led by O. B. Denison, '11, and with Harry U. Camp, '18 at the organ, Mr. Ferguson brought a successful conclusion to festivities of another Alumni Day.

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THE ENGINEER IN MANAGEMENT

(Continued from page 466)

and likewise hardest thing to learn is when to throw away the rules." Also, he wrote: "A broadening, and likewise rewarding experience, which must be sought, is to become actively interested in local affairs."

There are many references in these letters to the importance of enthusiasm. A sales manager felt "many engineers are low in enthusiasm." Nearly every letter stressed "team play" as a must for management places. Some remarked that service in the armed forces frequently speeded up the individual's understanding of people.

Another who went to M.I.T. said, "I believe that an engineering background will yield better management people than a liberal arts background, but this is only if, and it is a big if, the engineer has inherently or has acquired the necessary amount of humility." In my period at M.I.T. some of us felt that students with high marks had little of that asset, but people lacking humility usually acquire it with age. The M.I.T. man wrote also: "If engineering graduates could sooner be brought to recognize the necessity of compromise between time and thoroughness of treatment, it would help them train themselves earlier for management responsibilities." Also some of their elders might live longer. My quotations are ended.

All of us in management realize we must still seek needed education. The day that feeling ceases, we should be retired. As years run on there is a stronger and stronger feeling of a growing need for a better understanding of people — and no two of them are alike. John Stuart Mill said: "Men are men before they are lawyers or physicians or manufacturers; and if you make them capable and sensible men they will make themselves capable and sensible lawyers, physicians, or manufacturers." We can add the category of engineers to these words to good benefit.

Recently, I was asked to rate our division heads and the others in important jobs. I started by listing the needed qualifications common to all top management places. To me, these are qualities all important for management positions. Note that most of them have to do with the kind of a person the man is: (1) Leadership — it comes out of rating people's confidence. (2) Courage — it grows when you believe

(Continued on page 508)

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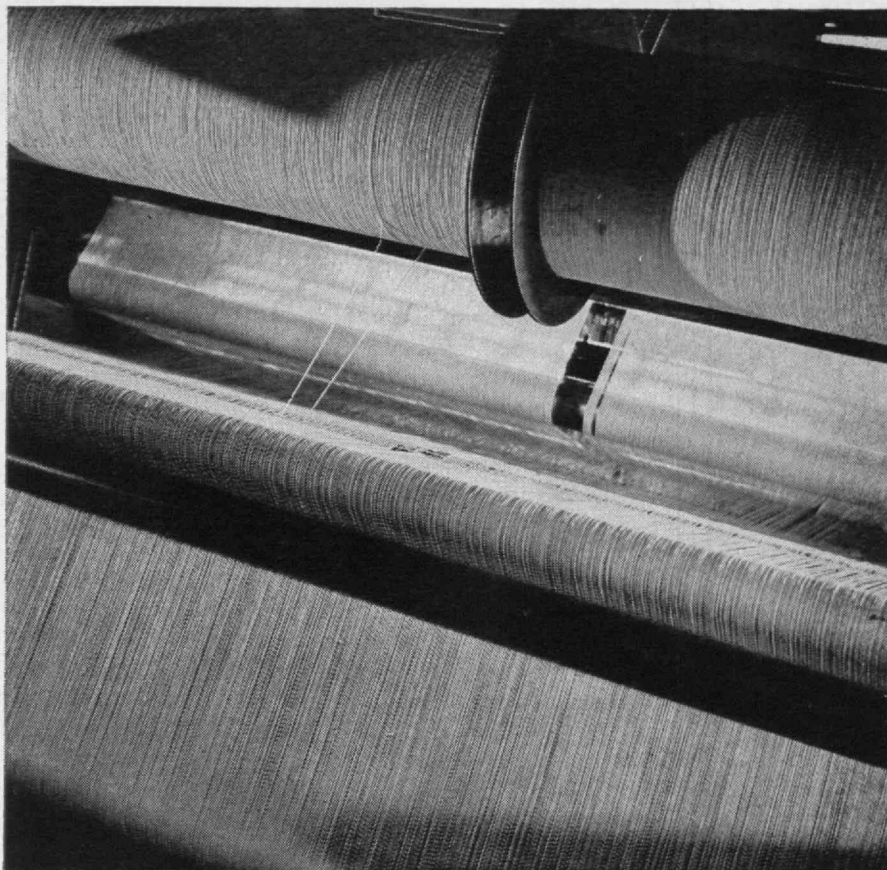
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THE ENGINEER IN MANAGEMENT

(Continued from page 506)

"freedom to fail" is real. (3) Judgment of people — it increases as your real interest in people grows. (4) Imagination — everyone can supplement theirs by borrowing from friends. (5) Depth of interest — it comes out of happiness in your work. If that's impossible — another job is indicated. (6) Getting the job done — here we can all mend our ways. It is an important factor. Engineers often over-extend the exploration time. (7) Specialized knowledge — here the engineer is at his best. (8) General knowledge — here many need widened interests. (9) Integrity — without this, no one qualifies for Number (1) — leadership.

Fortunately, every man with determination can improve and can continue to improve his rating in each of these nine areas. The young engineer looking forward to a management position cannot start facing this fact too soon, and it is never too late to improve. Probably most of you went to engineering school to get ready for engineering. It is surprising how many engineers drift into management jobs and then have to pick up the extra knowledge that is necessary. The engineer who wants to go into management should get ready for it by exposure to and study of all the areas and problems of business.

We who have moved into management places must continue to concentrate on further and wider development of interested engineers. We must ask ourselves: "What is my basic philosophy as to their development?" and "Do I qualify as their coach?" We ask ourselves, "Do I encourage their reaching out into all areas of the company for more knowledge on many subjects to learn and to help?" Ask, "Do I as far as possible promote our own people rather than go outside to fill good jobs?" This policy is a great stimulant to all juniors. Ask, "Am I actually seeing to it that decentralization exists in all ranks? Has, for instance, the Director of Research sufficient authority? A tight budget can defeat that. Do I remove men who have the conceit to feel their judgment is tops in all areas? Do I make all-out effort to create stability of place for all good men — even in sharp recessions? Do I unseat the men we feel are the wrong ones on the human side?"

There are many interesting questions about executive development that you do not have time to hear

(Concluded on page 510)

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THE ENGINEER IN MANAGEMENT

(Concluded from page 508)

me discuss. For example, how do you teach the teachers—the bosses—to teach? We spent 10 years at this before we began to make any real progress. We are trying to help teachers to a better understanding of this responsibility. You must prove to the teacher that to succeed he must know the man—really know him. He must reach into the experience of other teachers in colleges and in business for guidance. He must read the helpful articles and books—of which there are many—and review the characteristics of those persons who were his most effective teachers. Probably most important of all, he must sell the fact that developing others is, or at least should be, the best route to promotion. In the process the teacher will find an increasing urge, on the part of the younger men, to reach out for more knowledge in wider areas; he will advance the idea that exploring what juniors think of bosses, instead of vice-versa, has great value. The fundamental of effective teaching is earning the confidence of the man that you are trying to teach.

In conclusion, executive development is a business assignment, yes, but it is also a human assignment. People ask where is the difference, in the end result, between this company and that one, between this boss and that one. I feel that the biggest, the most fundamental difference is that to one type of person the job of developing people is merely a business problem. It's one of the jobs he does to earn his salary. By contrast, to the other, developing people provides an opportunity to have his business career as important as possible to many individuals. It is something he does because he has a personal need to do it. By setting his sights on the goal of helping as many others as possible to have greater fulfillment in their work lives, he finds greater fulfillment.

Scientists and engineers are making exciting contributions to life. Today you have again heard that there are an endless number of new and revolutionary developments in the offing. These new developments will need greater and ever increasing management abilities—greater competence. That is the challenge faced by an engineer in management. This makes greater the challenge to us in management who, whether engineers or not, have opportunities as teachers, to make great contributions to the progress in the next 10 years.



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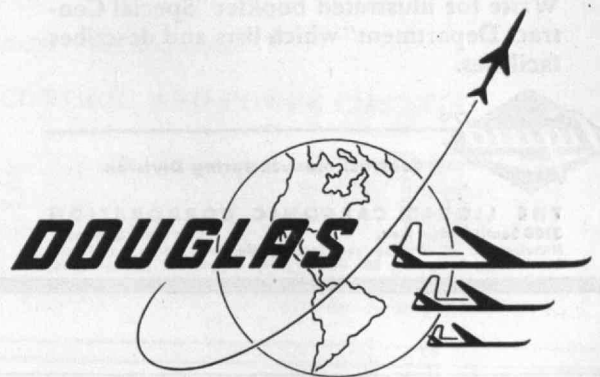
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(Continued from page 464)

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stop learning, to have the will to find out and, having found out, to hold fast to the privilege, and never be afraid of changing their opinion on the basis of new facts.

Most of my life, and yours, too, has been spent in combat, whether we realize it or not. The seen and unseen wars in which we have been engaged, have radically altered our lives from the pattern established by our ancestors, and have warped the whole structure of American society. Under the pressures applied by men of evil under foreign flags, this nation has been forced into the leadership of the free world. And from this lonely plateau there can be no retreat except at the risk of destruction. We are a peaceful people. Our history parades no lust for conquest, no despotic drive for international power. But through the accidents of size, geographical position, and sheer wealth of natural and human resources, we have been compelled to champion the whole western world. The fact that we did not seek this leadership, that it came in part as a by-product of self-preservation, did not reduce its frightful cost. Nor will it reduce the prodigious cost of maintaining it. But the first duty of leadership is to lead. The ability of this country to maintain leadership among nations depends not only upon the high quality of its spokesmen, but upon the morale, unity, and energetic goodwill of the great body of its people. We have only to look at western Europe to find current proof of the old adage that a house divided against itself cannot stand.

It is inconceivable that America can ever sink to a like state of helpless confusion. But I think most of us will agree that there are forces at work which could sap our moral strength and distract our attention from major issues, and which contain at least the seeds of the dissension that sets brother against brother. Let me accentuate the obvious. Our national strength is simply the sum of our individual strengths — 160 million of us. The very essence of the private enterprise system is the recognition of the integrity of the individual and his right to property and freedom of choice. But along with the opportunities and

(Concluded on page 514)

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(Concluded from page 512)

rewards of personal liberty go basic responsibilities. These include respect for truth and decency, and a willingness to accord to others the rights to freedom of inquiry. They include also the responsibility of the individual for working with his fellows for social and economic progress. Finally our responsibilities ask of us a blueprint for the guidance of future generations. These social virtues so vitally important to our new leadership cannot be legislated — cannot be imposed. They must be desired, worked for, and won by the individual.

In conclusion, we are relearning, painfully, and at enormous cost, some of the truths envisioned by our ancestors. We are learning, for instance, that the free association of men of good will — pooling their interests, energies and resources for the general welfare — can be a force for good far in excess of the simple addition of their individual wealth and manpower. Indeed, here is one case, at least, where two plus two equals five. We are also relearning that there is a kind of fourth dimension to the mind of man — a reserve of dignity, a capacity for generosity — which can be summoned and harnessed when the right tocsin is sounded. Finally, we are relearning and applying age-old techniques for sharing responsibilities and the useful products of their discharge.

I say we are relearning these things because no one of them is new; they are all as old as mankind itself. But sometimes they are overwhelmed and swept away by the equally primal selfishness that still lurks deep down in everyone. It must be our job, above all else, to root this selfishness out of our own hearts and demonstrate, throughout the world, that human happiness and progress can be purchased only with the currency of mutual respect, trust and cooperation.

As we work together — each assuming the responsibilities of freedom along with its opportunities — let us never subscribe to the totalitarian belief that "the end justifies the means." Let us be eternally vigilant, lest, in the name of patriotism and democracy we unwittingly destroy those very freedoms and rights that we proclaim.

If there ever were a time for the exercise of Christian virtue — of that faith in God which gives meaning and purpose to human life, and to the concept of the brotherhood of man — that time is now.

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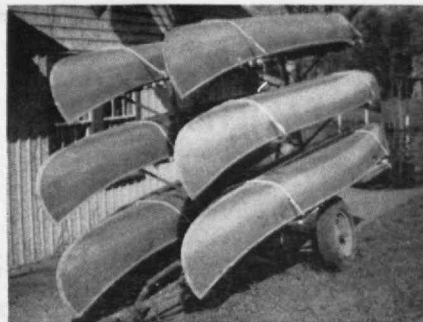
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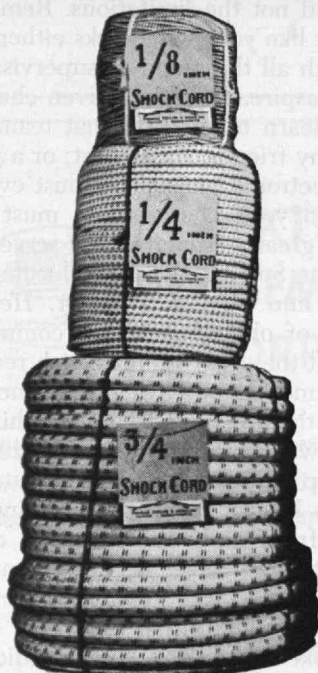
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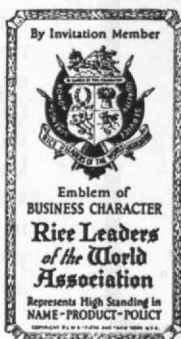


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THE EDUCATED MAN

(Continued from page 462)

haven't selected him. Somebody else did, and after the first blush of enthusiasm is over, you'll find him quite dreadful. And there you are locked in with him. You must study yourself and you must study him in order that, having become aware of his limitations, you will also become aware of his strengths. You mustn't let the smell of his pipe bother you, if he's actually a good man. You must build that teamwork on the strengths and not the limitations. Remember he probably doesn't like your wisecracks either. Now that goes on through all the realm of supervision, to which most of you aspire. If you are given charge of a team, you must learn to develop that team. And you can't do that, my friends, by a chart, or a graph, or a table, or an electronic brain. You must evaluate the men given into your charge. You must build their strengths into greater strengths and serve to reduce their limitations. So I say that the educated man must have insight into human behavior. He must have a deep sense of obligation to his community. He must realize that the great values which reside in what we call the American way of life are not self-perpetuating; that the freedom to pursue his own life and make his own choices, which he prizes, carries with it a deep obligation to perpetuate that system. There is no leisure group of great and able men far removed from daily life awaiting call to serve the public at every level of the community. Those jobs are done only by the educated men who are extraordinarily busy with other things.

If I were to make today one single indictment against the American business community, I would say that too many businessmen live out their entire lives outside the realm of responsibility for the welfare of our country. It is the incentive of self-interest that sparks the great productivity of our country, that has given America the highest living standard in the world, and makes the United States the bulwark of free nations everywhere. But when the incentive of self-interest reaches the point where it becomes an exclusive preoccupation with self, then the question arises in the minds of thoughtful observers as to whether our great country is beginning to be decadent. Other great nations have passed into history, and those who were present when the process began did not sense it and know it. The challenge today is: Are we rearing in our midst those who, in terms of leadership and character and public responsibility, are the equals of those who created and preserved our republic? Preoccupation with self will not do it. I said the other day, and I repeat here, solemnly, the first duty of the American businessman is not to his company but to his country, because there will be no American system of business as we have known it unless our country continues strong and vital, and measures up to its awesome responsibility in the world. That begins, my friends, the day after you leave this institute. Your job at the beginning is at the community level. That means helping with the

(Concluded on page 518)

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THE EDUCATED MAN

(Concluded from page 516)

schools to which your children will go, it means the church, it means all of the community services, it means entering into political life in the best sense, joining a political party, knowing what political creed you espouse and furthering it in the great American faith. Then going on into the more mature positions of leadership, like these grand men behind me who have exercised the responsibility involved in trusteeship in this great institution and finally, when you stand in the overhang of senility, as I do, entering into the public service. Those then, in my judgment, are the marks of an educated man.

If I were your employer I would want to know what you do with your spare time. I would want you limiting your work to the work day. I would be suspicious of you if you were carrying work home at night. That would probably show that your life was not well disciplined. I would want to know what reading you were pursuing. If you were a metallurgist, I would be happy to know that you were taking night classes in economics, or literature, or attending the symphony. And if I were making this address to a liberal arts college, I would say that I would be interested in knowing whether you spend your time studying history and literature or were taking chemistry or physics at night. I would want to know the extent to which you were following the great questions of the day, by which I do not mean sitting in front of a television set. I mean honestly endeavoring to understand the great questions; not by observing but by participating. Our national debates were virile when men rode on horseback a hundred miles to hear Lincoln and Douglas, not when they walked from the dining room into the living room. I would want to feel that your adult education was going forward apace on a vigorous basis all of your lives, and that you were determined not only to receive but to contribute to the stream of public opinion about you.

This is a great day in your lives. It is a great day for those of us who have the privilege to share it with you. The American heritage was created by sacrifice and must be preserved by sacrifice; and sacrifice to be effective requires understanding of the American way of life. Other men in your day, and mine, have died to preserve it. Ours is the privilege of living for it. Let us give of our best.



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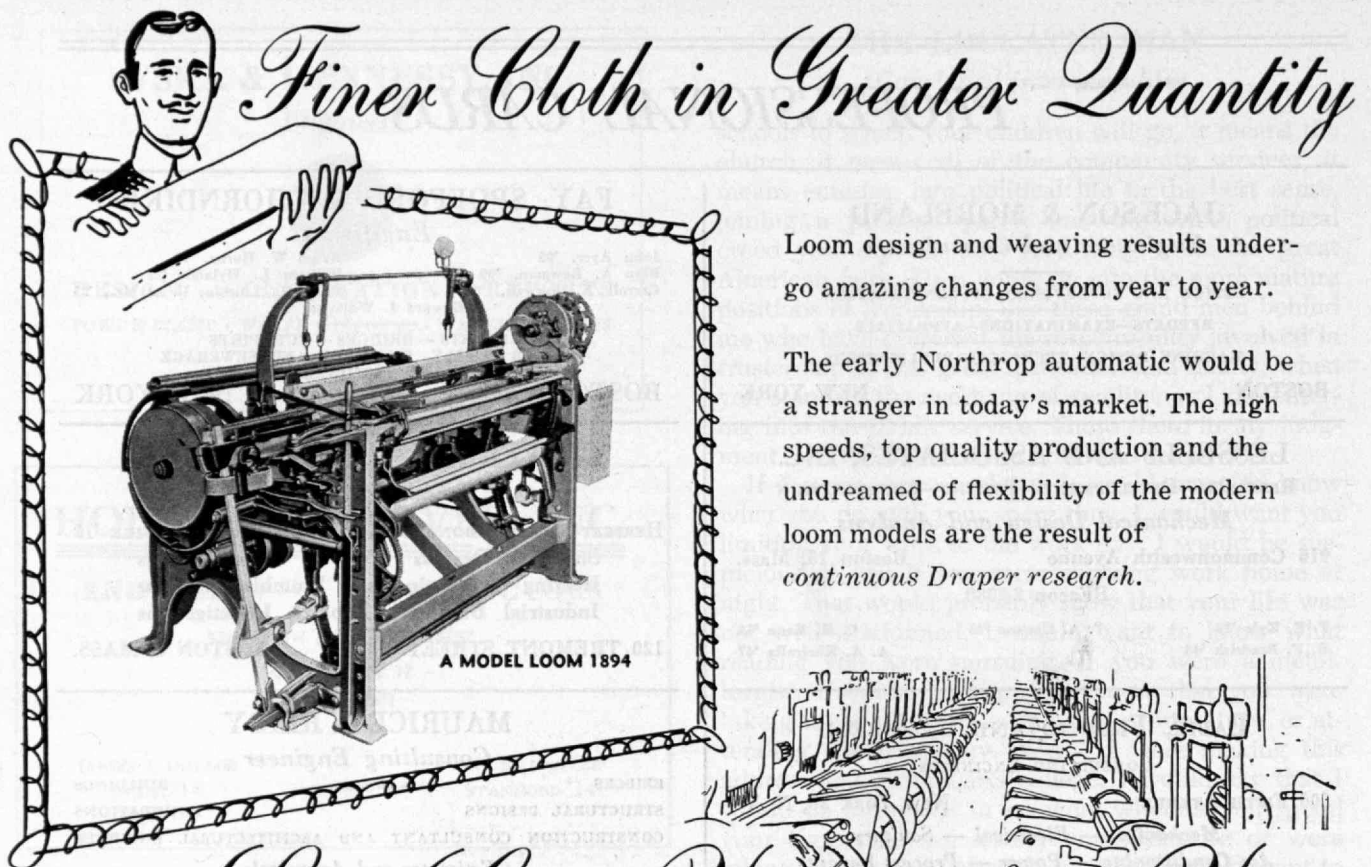
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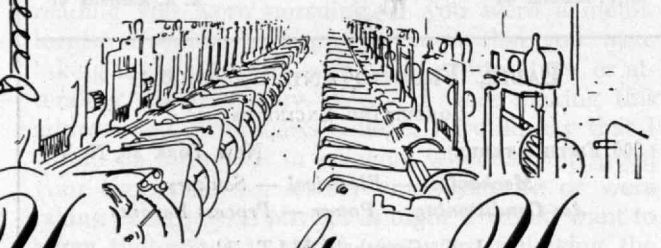
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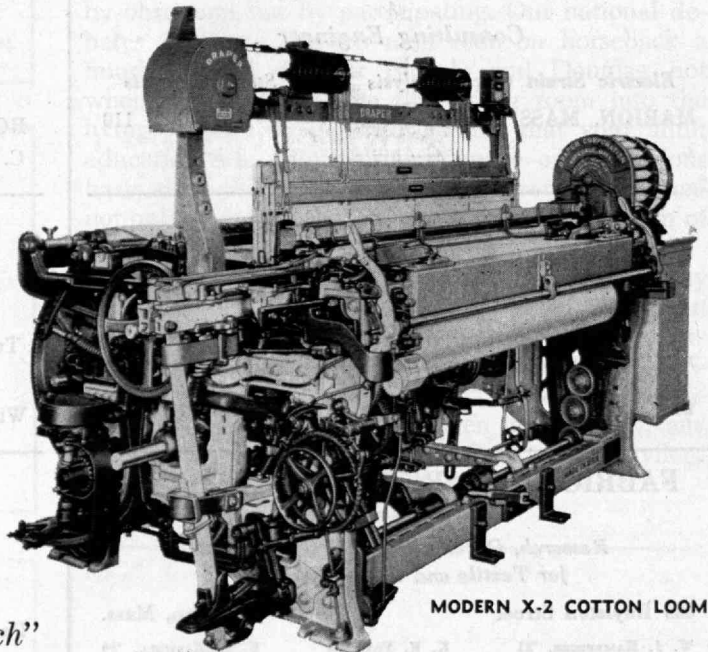
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Alumni AND Officers IN THE News

Elections and Appointments

HERMAN F. BELL'03 was elected president of Phi Beta Kappa Alumni in New York for a term of one year from June 1, 1954.

SAMUEL E. LUNDEN'21 has been appointed to serve on a Citizen's Committee to study all phases of traffic and transportation problems in Los Angeles.

Mr. Lunden is a past national vice-president of the American Institute of Architects and has served as a member of the Los Angeles Chamber of Commerce traffic and transit committee executive board and as chairman of the Town Hall Section on regional planning and development, which has been dealing with traffic and transit problems during the past year.

JOHN E. BURCHARD'23, Dean of the School of Humanities and Social Studies, has been elected 29th president of the American Academy of Arts and Sciences.

HAROLD G. MANGELSDORF'32 was appointed director of Esso Standard Oil Company.

JOHN T. HOWARD'35, Associate Professor of City Planning at M.I.T., has been elected president of the American Institute of Planners.

JAMES B. THOMPSON, JR., '50, Associate Professor of Mineralogy at Harvard University, will become a permanent member of that faculty next year. Mr. Thompson has made extensive studies of mountain structures and rock formation.

Hats Off

FREDERICK H. NORTON'18, Professor of Ceramics in the M.I.T. Department of Metallurgy, was awarded the honorary degree of doctor of science by the University of Toledo at the recent dedication of its Institute of Silicate Research.

The citation of Professor Norton's "distinguished record as educator, scientist, and engineer" embraced his contributions as a science educator at M.I.T.; as an author of significant texts based on teaching, research, and practical experience; and as a consultant and research scientist whose work for industry and for the National Advisory Commission for Aeronautics has been used for the benefit of humanity.

AVERY A. ASHDOWN'24, Associate Professor of Chemistry at the Institute, received a scroll from the American Institute of Chemists, New England Chapter, in recognition of his many services to chemists in the New England area.

THOMAS J. KILLIAN'25, chief scientist of the Office of Ordnance Research, U. S. Army, at Durham, N. C., has been appointed dean of the School of Engineering and Architecture at the Catholic University of America.

BERNARD R. LANDAU'47, a student at Harvard Medical School, is the winner of the James Tolbert Shipley Prize in medical research, and also First Prize of the Soma Weiss Award for undergraduate research.

KARL T. COMPTON, Chairman of the M.I.T. Corporation, has received from Dickinson College the annual Priestley Memorial Award and a ceramic medallion of Joseph Priestley, for "distinguished contribution to the welfare of mankind through physics."

Dr. Compton has also been elected chairman of a 12-member New England Committee that will study the use of atomic energy for peacetime purposes in the northeastern part of the country.

GEORGE R. HARRISON, Dean of Science at M.I.T., received the Spectroscopy Medal from the Society of Applied Spectroscopy at its annual meeting in May. The award was made in recognition of Dr. Harrison's contribution in this field.

Society Sessions

The following Alumni and members of the M.I.T. Staff were among those delivering papers at the 62nd Annual Meeting of the American Society for Engineering Education at the University of Illinois, June 14-18: JOSEPH H. KEENAN'22, Professor of Mechanical Engineering, HAROLD L. HAZEN'24, Dean of the Graduate School and Professor of Electrical Engineering, WERNER H. GUMPERTZ'48, Assistant Professor of Building Construction, and PHILIP M. MORSE, Professor of Physics.

At the 47th meeting of the Acoustical Society of America, at the Hotel Statler, New York, June 23-26, the following M.I.T. Alumni and members of the Staff took part in various sessions: EDWARD C. WENTE'14, JAMES B. FISK'31, FRANKLIN S. COOPER'36, MIGUEL C. JUNGER'2-44, JORDAN J. BARUCH'47, ROBERT H. KRAICHMAN'47, ALFRED W. NOLLE'47, PETER J. WESTERVELT'47, F. MANSFIELD YOUNG'48, IRA DYER'49, EDWARD M. KERWIN, JR., '49, ROBERT B. NEWMAN'49, LEO L. BERANEK, Associate Professor of Electrical Engineering, RICHARD H. BOLT, Associate Professor of Physics, JOSEPH C. R. LICKLIDER, Associate Professor of Economics, OSMAN K. MAWARDI, Assistant Professor of Electrical Engineering, PHILIP M. MORSE, Professor of Physics.

The following members of the M.I.T. Staff participated in the Summer and Pacific General Meeting of the American Institute of Electrical Engineers in Los Angeles, June 21-25: EUGENE W. BOEHNE'28, Professor of Electrical Engineering, JOHN D. C. LITTLE'48, research assistant in the Department of Physics, JOHN N. HARRIS of the Division of Defense Laboratories, and PETER E. SCHWEITZER, of the Division of Industrial Cooperation.

In Black and White

SAMUEL C. PRESCOTT'94, M.I.T. Professor Emeritus of Biology, has written a book entitled *When M.I.T. was "Boston Tech"* (Cambridge, Mass.: The Technology Press, 1954, \$6.00). Dr. Prescott's book records the history of M.I.T. from its beginning to the transfer of the Institute to its home on the Charles River in Cambridge in 1916.

THOMAS C. DESMOND'09 is the author of an article in the June, 1954, issue of *Today's Health*, entitled "Recreation in the Later Years."

HOWARD A. CHINN'27 is the author of a book entitled *Television Broadcasting* (New York: McGraw-Hill Book Company, Inc., 1953, \$10.00).

Obituary

HENRY F. HILL'87, May 11.
PIERRE S. DU PONT'90, April 5.*
LEWIS A. DUNHAM'91, April 14.
WILLIAM M. ANDREW'96, August 2, 1953.*
ERNEST F. LEARNED'97, May 30.
JOHN P. STODER'97, May 25.
HENRY E. WORCESTER'97, April 9.*
BENSON B. PRIEST'98, May 6.
WILLIAM S. NEWELL'99, April 19.*
RAYMOND D. BORDEN'00, January 26, 1953.*
ERNEST E. CLEVELAND'00, March 29.*
CYRUS CORLISS'00, April 28.*
HENRY D. JOUETT'00, March 7.
LAWRENCE S. BUTLER'01, March 26.*
LEON E. CROUCH'01, May, 1952.
THOMAS W. FOOTE'02, March 3.*
ELMER M. HERVEY'02, November 10, 1953.*
ANGELINE L. WEEKS'03, January 8.*
MRS. JOHN D. MACKAY'04, April 23.*
FREDERICK E. GIESECKE'04, June, 1953.*
FREDERICK B. SAEGMULLER'04, November 5, 1953.*
THEODORE STRAMBLAD'04, September 5, 1953.*
PRESCOTT J. CLAPP'06, March 22.*
HUNTER U. LIGHT'06, April 5.*
DANA M. WOOD'06, May 10.*
GEORGE R. NORTON'07, April 7.*
RALPH A. DRURY'10, May 16.*
GEORGE L. MYLCHREEST'10, April 25.*
MATTHEW B. BLACK'11, May 26.
DONALD N. FRAZIER'11, May 25.
CHARLES A. MACQUIRE'11, March 24.*
GEORGE H. ABEL'12, November 18, 1952.
LEROY N. BROWN'14, May, 1950.*
E. TOWER PIZA'15, October 26, 1953.*
HYOGO MOBI'17, April 17.*
AUSTIN D. HIGGINS'20, March 19.*
VICTOR C. HASSOLD'21, April 28.*
CHARLES A. BRANTINGHAM'23, March 25.*
FRANKLIN J. GRIFFIN'23, April 4.*
BENJAMIN P. HARRIS, JR., '23, February, 1953.
FRANK M. LEWIS, JR., '25, August 8, 1952.
LEO E. MONKS'47, April 7.*
* Mentioned in Class Notes.

News FROM THE Clubs AND Classes

CLUB NOTES

Boston Luncheon Club

The seventh meeting of the 1953-1954 season was held on April 15 at the usual location, the Union Oyster House. Our attendance was 58. George Warren Smith '26, Chairman of the Nominating Committee, submitted the nominations for officers for the coming year as follows: Chairman: Chenery Salmon '26; Secretary-Treasurer: Vincent T. Estabrook '36.

There were no further nominations and these officers were elected. The Nominating Committee also submitted a recommendation that the Club establish an Executive Committee, to be appointed by the Chairman, to assist the officers. This recommendation was approved.

Dean E. Francis Bowditch spoke on "The New Chapel-Auditorium and Student Life." The new chapel and auditorium are symbols of what is happening to student life at M.I.T. Technology is a new institution in the history of education in the U.S. as it is not yet 100 years old. Many people still think of it as a glorified trade school. However, science and engineering are also new fields and because they have changed the face of civilization overnight, society badly needs people who can make machines and men work together as a team. After World War II some wondered if undergraduate training would be abandoned at the Institute. The Lewis Reports scotched this view and outlined a direction for M.I.T. to follow, which involved pioneering in science, but also training men to make a contribution to solving the human problems that are created by the advance of science. Various faculty committees have been engaged in studying the problem of "developing the whole man" to include his intellectual, emotional, social, physical, civic and spiritual qualities.

The new chapel and auditorium are both to be located on the West Campus on what will be a plaza. The auditorium will be on the west side, with the chapel east of it, with a union building on the north.

In the basement of the auditorium there will be facilities for drama and music, with a little theatre seating 250. The main floor is to be a multiple-purpose hall with a capacity of 1,200.

The chapel will be a small building seating only 125 people. The religious program will not be dictated by the Administration but must be evolved. Through its construction, the Institute publicly recognizes the vital part that religion has played in the history of man and the founding of our country, and is providing facilities for all groups on a nondiscriminatory basis. — VINCENT T. ESTABROOK '36, *Secretary*, B. Standish Ayer and McKay, Inc., 50 Congress Street, Boston 9, Mass.

M.I.T. Club of Central Massachusetts

The Club had dinner and its third meeting of the season March 22, in the Crystal Room of the Hotel Sheraton. Professor Arnold Tustin gave an excellent talk on the problems of technical education here and in Britain.

The annual Ladies Night was held this year at Sterling Inn, April 30. After an extremely pleasant cocktail hour (compliments of Ralph Mahoney), everyone sat down to an excellent dinner. Mrs. Fred Mader led in some reminiscent group singing.

After dinner Mr. Lobdell, the ever-popular president of alumni affairs, spoke briefly to the group about his recent trip to Mexico. The speaker for the evening was Professor Herbert F. Goodwin of the Department of Business and Engineering Administration. With his subject of how to "Simplify Your Work," Professor Goodwin held the interest of the mixed group every moment — at one point of his talk he had various members of the audience working madly with peg-board sets which he had passed around. I'm sure that all of us, wives and engineers alike, went home with much useful information and a determination to practice the principles he outlined so well. — JAMES E. HAGGETT '47, *Assistant Secretary*, Norton Company, Worcester, Mass.

M.I.T. Club of Milwaukee

An informal get-together was held Friday evening, May 7, at the Hubbard Park Lodge in Shorewood. Members and their wives danced, chatted, played cards and enjoyed themselves. Refreshments were served. Those who attended were Mr. and Mrs. R. A. Arrison, Jr., 6-45, Mr. and Mrs. J. B. Ballard '35, Mr. and Mrs. M. F. Biancardi '40, Mr. and Mrs. F. E. Briber, Jr., '43, Mr. and Mrs. F. R. Gruner '41, Mr. and Mrs. A. G. Hall '25, Mr. and Mrs. H. W. Huston, Jr., '47, Mr. and Mrs. C. W. Jackson '49, Mr. and Mrs. A. E. Jakel '44, Mr. and Mrs. P. A. Koehring '49, Mr. and Mrs. J. W. Martin '47, Mr. and Mrs. C. E. Meyer '36, Mr. and Mrs. J. C. Monday '51, Mr. Vern Pfanku '51 and guest, Mr. and Mrs. F. J. Port, Jr., '40, Mr. and Mrs. C. W. Rahn '34, Dr. and Mrs. H. H. Rogers '53, and Dr. L. D. Smith '06. — CHARLES L. SOLLENBERGER '44, *Secretary*, 1030 N. Marshall Street, Milwaukee, Wis.

M.I.T. Club of New Hampshire

The annual meeting of the Club was held at the Manchester Country Club on Friday evening, May 14, 1954. We were highly honored in having a large delegation from Cambridge headed by President and Mrs. James R. Killian and including Samuel C. Prescott '94, H. E. Lobdell '17 and Don Severance '38. After an enjoyable social hour the group sat down to a most delicious banquet.

Roger LeBlanc '36, our vice-president, presided. After the banquet, Robert C. Erb '17, Chairman of the Nominating Committee, made his report, subsequent to which the following officers were elected: Roger LeBlanc, President, Charles R. Prichard, Jr., '30, Vice-president, Blaylock Atherton '24, Secretary-Treasurer, and F. Tenney Clough '38, Representative to the Alumni Council.

The Secretary read a letter from our former president, Henry B. Mitchell, in which he sent his greetings to the Club and tendered his resignation with regret, as he has moved to Georgia.

Many of the members brought their wives or sweethearts. We had a total attendance of 91. The members attending were as follows: W. G. Abbott, Jr., '06, Louis A. Arnold '42, Blaylock Atherton '24, Arnold Bailey '25, Ben L. Bassinor '34, R. A. Bisson '30, Wyman P. Boynton '31, Donald E. Burke '46, Elmer R. Burling '30, O. C. Clisham '14, F. T. Clough '38, Walter D. Davol '06, Robert C. Erb '17, Malcolm Gordon '46, Carl A. Hall '08, Lawrence Hall '35, Leigh S. Hall '14, Sidney Hall '43, Earl R. Hamilton '09, Marjorie A. (Holden) Heath '31, Louis B. Heaton, Jr., '38, A. R. Holden '23, Leon LaBombard '41, Philip LaBombard '47, Willis L. Learned '98, Roger LeBlanc '36, Sing Leong '45, Fred J. Lorenzen, Jr., '50, Eugene Magenau '34, R. G. Mossrop '20, Arthur J. Nakos '25, Clarence L. Nutting '19, Russell C. Pratt '32, Charles Prichard, Jr., '30, Charles P. Puksta '50, W. H. Shuman '47, Saul Sigel '30, Herbert D. Swift '15, M. A. Wight, Jr., '40, Malcolm Wight '06, Guy Swenson '14, Warren Gifford '23, Melvin Feins '38, Julian Lovejoy '22, and Samuel C. Prescott '94.

At the conclusion of the business meeting our new President Roger LeBlanc, introduced President James R. Killian, Jr., '26, who, in a most interesting 40 minute talk, gave us much general educational information and brought us up to date on the doings at the Institute.

In the course of his remarks, Dr. Killian stated that there was an acute shortage of teachers of science and that within a year we would be preparing for teaching less than one half of the science teachers which are needed for high schools alone. He stated that it is the policy of M.I.T. not to let down our standards due to the great pressures brought to bear, but to keep them up and not try to increase enrollment of students. The state universities throughout the country which are supported by public funds will have to take the greater part of the increase in enrollment. This year we have a 30 per cent increase in the number of applications and a great increase in applications for tuition scholarships. We will probably give about 400 next year. He further stated that the Institute now has ample dormitories for all men undergraduates, but as yet, not enough for the women students. The increase in enrollment falls largely in the new fields which are being offered, such as

Industrial Management, and the social sciences. The old courses are remaining about the same size. Social sciences have been growing out of physical sciences. The first psychologist employed at the Institute was taken on to work with the Department of Electrical Engineering. He further stated that there has been increased emphasis on various programs to help the handicapped, such as the blind, persons suffering from cancer and other troubles — the engineer is working with the surgeon.

At the conclusion of his remarks, President Killian answered several questions and everyone agreed that a most interesting and enjoyable meeting had taken place. — **BLAYLOCK ATHERTON** '24, *Secretary*, 142 Main Street, Nashua, N. H.

M.I.T. Club of New Mexico

To celebrate the opening of the spring season in these parts, 11 Alumni and their wives and children journeyed into the hills north of Santa Fe on May 16 for an all day picnic. Contrary to usual weather expectations hereabouts, it sprinkled off and on during the festivities, but this did not unduly discourage those of us who gathered to reminisce (a fancy word meaning to stretch the truth as far as the listener will allow it) about former days at M.I.T. and incidentally to celebrate the second gathering of our Club which was started last fall. The 10 children present helped to keep things moving and to keep awake those older Alumni, your Secretary included, who otherwise would have been prone to indulge in our honored Southwestern custom of the siesta. The children also gave evidence of a greater Technology to come, as witness Bill Well's son (aged one year) who with infinite aplomb sported a tee shirt with the legend "M.I.T. — Class of ??". Who says that engineers have no sense of humor or of the fitness of things?

Anyway, a good time was had by all, and due credit goes to Captain Ed Peterson '44, of Sandia Base, Albuquerque, who sparked the proceedings from the letter writing and planning standpoint, and to Ken Pike '19, of Santa Fe, who not only planted signs to direct the footsteps (or should we say the tires?) of the uninitiated, but also saw to it that that natural concomitant of spring, good cold beer, did not wither on the vine (or in the glass, either).

This Secretary would like to take this opportunity to announce to all travelers out in these parts that members of the Club meet for luncheon at the Coronado Club on Sandia Base the second Thursday of each month. Join us at noon on this day if you can. — **FREDERICK C. ALEXANDER, JR.** '32 *Secretary*, 339 Washington Street N.E., Albuquerque, N. M.

M.I.T. Club of Northern New Jersey

The five members of the nominating committee appointed by President Glenn Jackson '27 at the last meeting met for dinner at the Hotel Essex House in Newark on Tuesday April 20 at which time they drew up a slate of nominees for next year's officers and for three members of the

Board of Governors for the ensuing three-year term.

Those members appointed by President Jackson at last month's dinner meeting at the Canoe Brook Country Club were: Newton Foster '28, Chairman; G. C. Paulsen, Jr. '40; Lem Tremaine '23; Donald D. Way '19; and John T. Reid '48. The slate of nominees, which was finally selected by this committee, will be presented to the Club for voting at the next meeting.

Incidentally, at the time these notes are being written, the date and place of this annual business meeting has been changed from Tuesday May 25 at the Hotel Suburban in Summit to Monday May 24 at the Hotel Suburban in East Orange because of some difficulties experienced in obtaining the necessary reservations.

The results of the election and, it is hoped, the names of the local recipients of freshmen scholarships to the Institute, tenable this September, will be given in next month's notes. — **RUSSELL P. WESTERHOFF** '27, *Secretary*, 823 East 23rd Street, Patterson, N. J. **JOHN T. REID** '48, *Assistant Secretary*, 80 Renshaw Avenue, East Orange, N. J.

M.I.T. Club of Sao Paulo

As previously announced the meeting was held for the approval of the Club Constitution and election of officers. Alumni present at the meeting were as follows: Moacyr Rodrigues Dias '19, Adolpho Santos Jr. '24, Werner O. Bachli '33, Gordon C. Pearson '33, Robert L. Moody '34, William A. Sangster '37, Allen G. Velho '39, Gunner Orberg '42, Alfredo P. Cesar de Andrade '45, Oswaldo F. F. Torres '45, Joaquim M. Batistella '46, Paulo Alemida Fagundes '46, Victor F. B. de Mello '46, Rogerio N. da Silva Rego '47, Eduardo Prado, Jr. '50, Heinz Guenther '52, J. Haroldo Falcao '50.

The proposed Club Constitution was discussed and voted article by article. Several items became serious points of disagreement, such as the club name and so on. After Mr. Moody read the letters from Dimitri Trone '24, Cel. Benjamin Amarante and from several other supporters of the name "M.I.T. Club of Brazil," there was considerable debate among those present as many were in favor of the name "M.I.T. Club of São Paulo." A vote was taken and by 11 to 4, with two abstentions, the name "M.I.T. Club of São Paulo" was approved.

At this point, a resolution was proposed by Mr. Allen G. Velho and accepted by the members present, stating that the decision to call the Club "M.I.T. Club of São Paulo" rather than "M.I.T. Club of Brazil" was approved by the majority of members present due to the fact that, as a majority of alumni reside elsewhere in Brazil, it would be presumptuous to use the latter name, but the hope was expressed that similar clubs would be founded in Rio and other places which in due time could combine into an "M.I.T. Club of Brazil."

On article II, "Object," it was voted to omit the sentence "residing in Brazil," making it theoretically possible for all M.I.T. Alumni to join the Club as members. It was decided to hold the annual meeting on the second Friday of March of each year. It was voted that annual assess-

ment will be \$200 for all members. Finally, the Constitution was voted and unanimously approved with the modifications mentioned above. Due to the lack of time it was decided the election of officers would take place at our next meeting, voted to be held in São Paulo on April 23rd. Closing the meeting, nominations were made and accepted for elections as follows: President — Robert L. Moody '34, São Paulo; Vice-president — Victor F. B. de Mello '46, São Paulo; J. Haroldo Falcao '50, Rio de Janeiro, Rogerio N. da Silva Rego '47, São Paulo; Secretary-Treasurer — Oswaldo F. F. Torres '45, São Paulo, Rogerio N. da Silva Rego. — **ROBERT L. MOODY** '34, *President*, c/o Ford Motor Company, Inc., Caixa Postal, 8062, São Paulo, Brazil.

M.I.T. Club of Southern California

A new segment of the 1,400 Alumni in this area may be interested in the announcement by Program Chairman James S. Cullison '41 of a trip through a brewery about the time this is read. Inspection and grading of samples will be thorough. "Ask a Tech Man, He Can."

Dean Jagger, the contact man with M.I.T. and head of engineering at Pomona College, has been requested by the Program Committee to show his most interesting pictures of the trip of himself and Mrs. Jagger through France and Germany in a Volkswagen which he bought in Paris. He got outside of the cities and saw how the people lived. We are hoping to see the ladies in droves at this fall meeting. If any Alumnus has not been getting the notices of these interesting meetings he should call Treasurer Frederick W. Grantham '25 at HO 7-8367 at once.

The Club will miss Arthur B. Marlow '29 for the coming 12 months. He will be on a mission to construct a railroad to a taconite ore mine near Sheridan, Mich., for the Winston Company. Mrs. Marlow and daughter will remain in Pasadena, and son Tom continues his work as a junior at M.I.T. and as an officer of his fraternity and Course Society. Art is very proud of Tom making the Dean's list.

Our Club was well represented at Cambridge this year on Class Day by our President, William MacCallum '24, and by three prominent Alumni who attended the Architects Convention in Boston, our first Vice-president Samuel E. Lunden '21, Assistant Treasurer Anthony M. Thormin '27 and Earl T. Heitschmidt '22, the latter being the architect for the Biltmore. We understand that Page Golsan, Sr. '12, also attended. The names of any others from our Club would be appreciated.

The Club Governors met in the Redwood Room of the Savoy Hotel, May 14, with President MacCallum '24, Philip Herick '24, Samuel E. Lunden '21, James S. Cullison '41, Frederick W. Grantham '25, Anthony M. Thormin '27, John B. Dingler '48, Robert E. Holler '31, Philip K. Bates '24, and Hiram E. Beebe '10.

Future meetings were discussed and also the selection of the high school graduate of this area to whom the M.I.T. first scholarship is awarded and which will be announced in the next Review. The annual dues of \$5.00 take care of the running ex-

penses of the Club and also pay for this scholarship — a package deal.

President MacCallum reported the highest number of scholarships granted from this area in history. Thirteen of the 42 applicants, screened by Honorary Secretary Kenneth C. Kingsley '23, having received "Freshman Competitives" and other awards. The influence of the ocean breezes at Kingsleys new home on Lido Island, Newport Beach and the visit of our good friend Dean Pitre of the Institute has, I believe, put us ahead of our Pacific Coast rival for years — the Seattle M.I.T. Club.

In charge of membership is Samuel Lunden who made a thorough analysis of the nearly 500 returns received to the January letter which went to the 1,400 Alumni in this Club. To complete the payment of the scholarship the contacting of those 200 or more replying and neglecting the enclosure of their dues was decided and after that, other areas of Alumni according to Lunden's recommendations. The Club is stronger each year but more active participation by still more Alumni would be greatly welcomed.

The Club welcomes Howard S. Currier '13, former chief engineer of the Ford Plant at Dearborn, now living in Arcadia. There are a great many Alumni who are retired who could do a great deal for the Club but who are too retiring. We need them and we hope they will find pleasure in taking on some of the phases of the Club's increasing activities. — **HIRAM E. BEEBE** '10, *Review Correspondent*, 1847 N. Wilcox Avenue, Hollywood, Calif.

M.I.T. Club of South Florida

The April 28 meeting was held at the Coral Gables Country Club. After an excellent dinner the Club demonstrated that it has sufficient talent within its ranks to provide its own entertainment. Ed Mandell '21 proved himself to be an accomplished musician by directing a three-piece orchestra consisting of himself as violinist, John Aswell as cellist and Betty Halam as pianist. Following this, Don Brown '51 gave a performance which would do credit to a professional magician. If Don ever loses his present job we have no doubt that he can make a good living on the stage.

President Symonds '35 announced that Dr. Compton has accepted an invitation to address a meeting of the Club next December. — **DONALD S. WHITMORE** '51, *Secretary*, 2191 S.W. 11th Street, Miami, Fla. **KENNETH P. ARMSTRONG** '10, *Publicity Committee*, 1240 Sesame Avenue, Opa Locka, Fla.

M.I.T. Club of Taiwan

A meeting of the new Club was held on March 24 in Taipei. Twenty-one Alumni were in attendance. During the meeting, the following officers for 1954-1955 were elected: C. T. Chien '22, II, President; W. H. Russell '26, II, Vice-president; H. T. Liu '37, XVI, Secretary; and S. W. Hsu '46, I, Treasurer.

The two speakers at the meeting were Sam Lee '21, VI, and Y. H. Koo '25, VI. Mr. Lee told of his work with UNESCO and Dr. Koo told of his work in mathematical fields, and of his activities at the University of Pennsylvania and as visiting pro-

fessor at M.I.T. — **H. T. LIU** '37, *Secretary*, 9, Lane 44, Ching Meng Street, Taipei, Taiwan, Formosa.

M.I.T. Club of Washington

Dean Edward P. Brooks '17 enthralled members and guests of the M.I.T. Club of Washington on January 15, 1954 in Barker Hall with an extemporaneous talk on "M.I.T.'s Role in the Industrial Management of the Future." Dean Brooks dispensing with all prepared notes, called on his wealth of executive experience with U. S. Steel, Erie R.R., American Cotton Oil, and Sears Roebuck Company, and discussed the essential qualities characterizing successful administrators and the actions taken by M.I.T. to instill and nourish such qualities in its students.

A tell-tale rustle from the guests, perhaps founded in unfulfilled aspirations, greeted Dean Brooks' announcement of the proposed three-week course for young business executives and would-be managers. Questions from the floor emphasized the interest in personality problems associated with supervisory positions. Among the distinguished guests were: Honorable James C. Worthy, Dean Frederick M. Feiker, and E. Bryan Williams.

Approximately 60 intellectual M.I.T. Alumni and their guests gathered at the April 2 meeting of the Club to hear Dr. Charles W. Lowry explain "Why Communism Appeals to Intellectuals." Author of the timely book, "Communism and Christ," Dr. Lowry who received his M.A. from that school up the river (Harvard) in 1927 and his Ph.D. from Oxford in 1933, is one of the three founders of the organization "Foundation for Religious Action."

In his speech, Dr. Lowry briefly traced the rise of Communism from 1848, when the Communist Manifesto was issued, through the violent days of 1917, to the present, when Communism is an all-commanding position throughout the world. With Communism dedicated to the disruption of all other forms of government and society, it naturally follows that the world today is probably more divided than at any other time in history. Dr. Lowry defined Communism as a versatile ideology coupled with an ingenious plan of campaign employing an intricate, potent power system.

The intellectual appeal results from three facts: (1) Communism professes to be scientific; (2) Communism has had, and in some places still does have, moral appeal; (3) Communism has religious appeal. Many persons are attracted by anything that professes to be scientific, sometimes without knowing the true meaning of the term. The moral and religious appeal that Communism makes to some persons frequently captivates gullible and idealistic persons who require time to discern the difference between words and actions. Our salvation, according to Dr. Lowry, rests in living and promoting a better, truer, and more compelling ideology.

Among the distinguished guests who were present at this highly interesting meeting were: Daniel W. Justice, and George Stone, '89. — **EDWARD J. BACON** '47, *Secretary*, 2226 Washington Avenue, Silver Spring, Md.

CLASS NOTES

• 1886 •

To the living members of M.I.T. Alumni '86 — Greetings: The Alumni year 1953-54 has produced but little in the way of class news. The Secretary scratched his head to get out a few notes for the issues of November '53 and January '54, and now this July '54 number winds up a very barren year for our Class. In April '54 our ever faithful member, Fred Mackintosh wrote a few choice thoughts, from which I quote: "By the way, what do you do to while away the time? Are you in the cranberry-bog area and do you make a living from the output of the bogs?" This remark opens up a rather delicate subject, for probably Freddy has a recollection of my adventure in June '52 in a Cape Cod cranberry bog about which I made a few notes for the issue of January '53 and of which I still have a reminder when I turn over in bed or try to reach with my left hand to pull an electric light cord above my head. I might remark that I am still (two years after my adventure) taking exercises twice a day to keep the left shoulder pliable. So much for the bogs!

As to how I "while away my time" I think the above will indicate how part of the time is spent, and when I say that Mrs. Chase now does almost all of the driving, you may think that I have even more time on my hands. But to go on with Fred's letter. Quote: "I do know something about bogs and here it is. Years ago a friend of my family . . . purchased a cranberry bog; to make it manageable it was necessary to have dams and gates to control the water level in cold weather. In putting the gates in he found in one place a pile of yellow sawdust where there had been no saw mill for many years. This led him to deduce the fact that pine wood if kept under water would practically last forever. He then went into the business of providing straight pine logs which could be easily driven in the semisandy soil of Boston's Back Bay district. At that time they wanted to build a new Trinity Church of stone. It was done and I personally watched the driving of the spiles and then cutting them off so they would always be wet by the salt water. This led to the rapid growth of the Boston Back Bay District. The above information does not help you out much as regards old '86 Class." End of quote! On May 12 the Secretary received another letter telling of F.M.'s recent visit to Boston, his inspection of the new Technology buildings, and his pleasure at finding Trinity Church still standing O.K. Now, Mack, you may not have expected it, but your letters have given me something to put in the final issue of the class notes for 1953-54. — **ARTHUR T. CHASE**, *Secretary*, Island Creek, Mass.

• 1890 •

Pierre du Pont passed on April 5 after a few hours illness. Born in June, 1870, at the age of 14 he lost his father in a

powder explosion, and the oldest son became the family guide and leader, acquiring the title of "Daddy," which continued to be used, not only by his brothers and sisters, but by other members of the Du Pont family up to the time of his death. To 1890's Secretary it has seemed that this term expressed his relationship to the enterprises over which he presided and the tasks he undertook throughout his life. On graduating, he went to work as a chemist in the family powder mills and about 1896, with his cousin Francis, developed the first successful shotgun smokeless powder. From 1899 to 1902 he was in the steel business but then joined his cousins, T. Coleman (M.I.T.'84) and Alfred du Pont, in buying the powder business, which was on the point of passing out of the family. He occupied various positions in the E. I. du Pont de Nemours Company and finally as president led them in research and the investigation of dyes and chemicals so that, from being a powder company, they became the largest manufacturer of chemicals in the world. In 1919 he became chairman of the board of this company, which position he retained until 1940. In the *Saturday Evening Post*, Alfred P. Sloan has told how, when the General Motors Company was in serious difficulties in 1919, Pierre was induced to become president and continued in this position until 1923, when he became chairman of the board of this company. He seemed especially gifted in staffing his companies with able aggressive men, and in the address at our 50th he told how they watched men who had to make quick decisions in emergencies and advanced them, if deserved. The *Wilmington News* refers to him as "largely and personally associated with the establishment of two of the nation's most important industries, organic chemicals and automobiles," and also as "one of his state's most determined social reformers." He donated millions of dollars for improving the public schools of Delaware, and also, "when collection of the state income tax proved difficult he undertook to collect it himself, was named Tax Commissioner, opened and staffed an office, and in eight years collections rose from one million to over seven million dollars." And we should not forget that he, with Coleman du Pont and Charles Hayden, was the giver of the first addition to the new Technology in Cambridge, Building 8, which was added for the use of the mining department in 1917. His special hobby was his home estate, Longwood Gardens, virtually a public park, with conservatories, gardens, fountains, and a massive pipe organ, visited annually by 100,000 people. We of '90 remember him as a tall quiet chap wearing an apron of bed-ticking in the chemical laboratory; and at our 50th when he returned, dressed in his freshman military jacket and served cocktails to the multitude. His address on that date included advice on selecting a staff which might well be followed by many organizations. At the time of his 80th birthday he wrote: "I am in good health and hope to remain so for another 10 years in order to accomplish some of the things I would like to do."

Harry Burley reports that he had an

uncomfortable winter, in the hospital from November to February, and since then at his home. His son telephoned in May that he was showing some improvement, but is still confined to his bed and obliged to avoid any unnecessary exertion. Harry has been one of our most dependable members and will be missed, but we will hope he may be able to come back later. From Harold Roberts we have the report of a wonderful recovery of perfectly normal eyesight and clear vision after two months in the hospital following a cataract removal. He says his "pump keeps going as in the past" and he hopes to equal the family record of 93 to 96 years. He has six sons and a daughter, and all seem to be well-employed, ranging from a Wall Street lawyer to a sheep-raiser in South Australia. About a year ago we received a New York address for Roberts but he writes he is still living at 3490 Via Guadalupe, Tucson, Ariz. Franklin Knight has again called attention to the change in his address to Box 327, Lenox, Mass. — GEORGE A. PACKARD, *Secretary*, 25 Avon Street, Wakefield, Mass. FRANK M. GREENLAW, *Assistant Secretary*, 36 Bull Street, Newport, R. I.

• 1892 •

The Secretary has no news to report other than that the class members in the greater Boston district are now on their usual summer programs. He hopes to see a few of them at the luncheon on the coming Alumni Day. — CHARLES E. FULLER, *Secretary*, Box 144, Wellesley 81, Mass.

• 1894 •

In responding to the announcement of our 60th Reunion in Boston, information has been received from a number of our members who report that they cannot be present. Some of the replies are from men who have not been heard from for many years.

Herbert E. Johnson, VI, is retired and living at 848 West 8th Street, Corona, Calif. John W. Kittredge, II, writes: "Sorry, I cannot attend the reunion. I wish it all success, and all pleasure to old classmates." We all remember John with warm friendship. He is now retired and lives at 239 Porter Street, N. E., Warren, Ohio. Jesse M. Holder of 42 Walker Street, Swampscott, writes that he does not plan to attend. He was with us only a part of our undergraduate years. John E. Wray, still with the *St. Louis Post Dispatch*, 1111 Olive Street, St. Louis 1, has had a long and successful newspaper career. He intimates that he plays golf and is sorry not to be able to tee off with classmates in June.

John P. Story, Jr., whose occupation is real estate 732 17th Street, Washington, says that "being in good health and sound mind, I greatly regret not being able to join my old friends." If in search of a house or apartment in Washington, why not enlist Jack's aid? It is surmised he is as pleasantly friendly as he was back in 1892 when he left us.

Another who would be cordially welcomed but does not plan to be with us is Leslie Dana, 1 Brentmoor Park, St. Louis 5, Mo. He is now retired after an active business career. Dr. Susan W. Peabody,

5515 Woodlawn Avenue, Chicago, expresses regret at inability to attend. Fred H. Clarke, 65 Glen Road, Wellesley, will not be with us according to his present plans. Although a local man and a graduate (he has been active in civil engineering work in and around Boston), Fred has been missed at our five-year reunions for a long time. If he needs a special invitation it will be forthcoming. Ferdy Schiertz, at 2051 Columbus Avenue, Boston, is so physically disabled that he thinks it would be dangerous to attempt to join us. His wife has died since our last reunion. A warm letter from him shows how deeply he would enjoy it. As he is almost a shut-in, letters from those who knew him well would give him real pleasure. It has been our hope that George Sherman would be able to come on from Akron for the reunion, but he says he is sorry that he cannot. George lives at 75 Edgerton Road, Akron 3, Ohio, and although rather lame is still active in dealing in machinery.

Walter V. Brown, now retired and living at 135 East Amelia Avenue, Orlando, Fla., wrote that he was "going to the hospital today" (April 29) but did not specify the reason. Whatever it was we hope he is again in fine condition and will be able to get North before summer is over. Harold Chase, whose presence we all enjoyed when he was with us five years ago, is not planning to come this year. We are sure that he misses his long and friendly association with Claflin, as many of us do. Chase after retirement as chief chemist at the Dan River Mills, Danville, Va., is now a consultant in textile chemistry, and lives at 158 West Main Street, Danville.

Professor Emeritus Harry W. Gardner writes the Secretary that he cannot be with us at reunion. He still lives at Hunnewell Terrace, Newton. It is a disappointment to the committee that he and Mrs. Gardner cannot attend. Fred C. Baker, Lock Box 241, East Templeton, Mass., has for several years lived in retirement in this pleasant village. He replied that he could not attend the Class Reunion. Edward J. Marvell, long in engineering work in Fall River, is now retired and living at Tiverton, N. J. We remember him as "Ned" in our undergraduate days when he was with us for the first three years, and it would be a great pleasure to see him at our reunion. Albert G. Keith, who transferred to Harvard after a few months at M.I.T., has had a distinguished career as an architect, and is now retired at 6 Mason Street, Cambridge. His daughter Theodora, has splendidly represented the family and graduated at Tech in 1932 and was for a time on the Staff of The Review.

Three more of our numerous California members have sent cordial messages of regret. F. M. Morse, Professor Emeritus of Architecture at the University of Minnesota, now retired lives at Healdsburg. Arthur J. Farnsworth, long in electrical engineering, and now living, retired, at Warner Spring, writes: "I'm awfully sorry, but cannot make it." And Austin Sperry, busy but retired, whose delightful home is at 2534 Warring Street, Berkeley 4, writes that he "would very much like to be with the old classmates," and sends special regards to the committee. It is feared a similar message is coming from John Nowell.

George Owen was "convened" which means Pooh-Bah of the Emeritus Professors' group luncheon on May 11 and presided with his usual urbanity and rich friendliness. The Secretary attended the annual meeting of the Refrigeration Research Foundation at Boca Raton, Florida, April 24-28, and was unable to prevent his election as chairman of the Board of Governors for the eleventh year. — SAMUEL C. PRESCOTT, *Secretary*, Room 16-317, M.I.T., Cambridge 38, Mass.

• 1895 •

Recently a letter was received from our brilliant classmate, Gerald H. Matthes indicating the month of March as being the most important month of his career and interesting life. Gerard was 80, in age, March 16 last, and on March 3, he and Mrs. Matthes celebrated their Golden Wedding Anniversary, and incidentally this date was the birthday of Mrs. Matthes. He stated, "This was a busy, happy day for us, with flowers, telegrams, telephone calls, gifts and beautiful letters and cards coming from all over the world. Over the years March has been full of interest and good fortune. Two of our three great grandchildren were also born in March. Life goes on, giving us health and the desire to live and do." He quotes from Charles Dickens — from the *Technology Review* article by James A. Tobey, "Father Time has laid his hand lightly on us," proving that we have used him well." A wonderful message from an interesting and successful life. He is still working about eight hours daily at his desk and drafting board, trying to finish some chapters for a handbook that is to be published soon, after which he hopes to complete the writing of his book on river engineering.

Gerard has qualified for the best wishes from the Class of 1895, and with the hope he may be spared for many "moons" to continue his useful and interesting services during his generation. — LUTHER K. YODER, *Secretary*, 69 Pleasant Street, Ayer, Mass.

• 1896 •

Your Secretary has completed another fiscal year of reporting to the Class such items of interest as have transpired through this year. May we at this time wish you a restful and enjoyable vacation season. In acknowledging the donation from James McIlvaine, Jr., to our class fund let us remind the rest of you of this excellent plan of adding to our balance. Our present financial status is class general fund — \$82.20; Benevolent fund — \$1683.27 as of June 1, 1954. We regret to report the passing of our classmate William M. Andrew, 86 Freemont Ave., Battle Creek, Mich., on August 2, 1953. This is the first notice we have received regarding this. — JOHN A. ROCKWELL, *Secretary*, 24 Garden Street, Cambridge 38, Mass. FREDERICK W. DAMON, *Assistant Secretary*, Commander Hotel, Cambridge, Mass.

• 1897 •

We regret that news this month must record the passing of an outstanding classmate and loyal M.I.T. Alumnus — Henry E. Worcester. A resolution was prepared by our classmates John P. Ilsley and Wal-

ter Humphreys, and John A. Rockwell '96 and Ralph T. Jope '28 and adopted at the April 26 meeting of the Alumni Council. The resolution reads: Be it *Resolved*: THAT WE HEREBY PAY TRIBUTE TO HENRY ELWYNNE WORCESTER of the Class of 1897, by whose death on April 9, 1954, the Institute, the Class, the Community and many organizations and societies have lost a most loyal worker and warm friend. He was fond of all sports and out-of-doors activities, and his love of the out-of-doors was never more in evidence than when with his family on his farm. He was a wonderful husband and father. Throughout his life he served M.I.T. by contributing generously of his time, wise counsel and broad experience in guiding students, class and alumni activities, and the progress of M.I.T. itself. As an alumni member of the Advisory Council on Athletics from 1914 to 1947 he will be cherished by many generations of M.I.T. students for his encouragement and patience in helping them to grow under increasing responsibility. As Class Agent for 1897 from 1942 until his death, as President of the Alumni Association in 1940-1941, as a member of this Council since 1922, as Chairman of the Building Committee of the Alumni Swimming Pool and as a member of committees too numerous to mention, he will long be remembered as an effective organizer and able administrator. Both as a Term Member of the Corporation from 1931-1936 and as a Life Member of the Corporation since October 1937 he served with distinction on many of the most important committees of that body, including its Executive Committee. Throughout his fruitful life which encompassed many high posts in American business and philanthropic organizations he was highly respected and much loved by his associates. His loss cannot be measured in the known qualities he possessed, for his uncharted services were legion. There was only one Harry Worcester! How we shall miss him! As members of this Alumni Council, we join in sincere tribute to his memory, in appreciation of his years of faithful and productive work and in the expression of our deep sympathy for the members of his family.

Be it further *resolved*: THAT THESE RESOLUTIONS MAY BE SPREAD upon the records of the Alumni Council and that a copy thereof be transmitted to his family.

This resolution was sent to Mrs. Worcester who received it with grateful appreciation. — JOHN A. COLLINS, JR., *Secretary*, 805 Shadowlawn Drive, Westfield, N. J.

• 1899 •

William Stark (Pete) Newell was one of the men many of us were looking forward to greeting again at the 55th Reunion of the Class, as we did at the 50th. But a sudden and fatal heart attack on April 18 saddened the hearts of all of us. As a life member of the Corporation of M.I.T. complete details of Pete's distinguished career have appeared elsewhere in *The Review*, but no mere words there or in this column can possibly express how we all felt toward him or how we shall miss him. An indication of the respect and affection in

which he was held is the fact that your Secretary received over a dozen letters from classmates, enclosing clippings recording Pete's death. The Class, the Institute and the United States have all suffered a severe loss in his passing.

Professor (Emeritus) Miles S. Sherrill is having the time of his young (?) life this summer. He left New York City on May 6 aboard the American Export liner and arrived in Naples May 15. From Naples he went to Rome, arriving on May 17 and left by plane the same day for Tel Aviv and proceeded from there to Rehovoth, Israel. There he joined Charles D. Coryell, Professor of Nuclear Chemistry at M.I.T. who is on sabbatical leave and is participating in the research activities of the Weizmann Institute of Science in physical inorganic chemistry. Later they will visit the Hebrew University and the Haifa Institute of Technology. With Professor Coryell is his wife and 10 year old daughter. After several weeks the party will travel through Turkey and Greece and then they will spend the rest of the summer traveling by automobile through Western Europe. Miles is due back in New York around the middle of September. He has been a very faithful attendant at all class functions and was thus much missed at the 55th Reunion in June.

L. H. Turner, V, chief chemist for the Department of Mines, Mining and Geology for the Georgia State Mineral Laboratory has a long article on the work of the Laboratory, published by the Georgia Geological Survey, Vol. VII #1. Through such work, 35 known commercial minerals, metals, and rocks have been reported on while others, as yet with undeveloped industrial possibilities, are under study. The article is well illustrated and several show Lawrie amid laboratory scenes. — B. R. RICKARDS, *Secretary*, 381 State Street, Albany, N. Y., MILES S. RICHMOND, *Assistant Secretary*, 1793 Beacon Street, Brookline 16, Mass.

• 1900 •

The letter of April 27 to the entire class membership, numbering about 142, has so far, three weeks later, elicited 19 replies. Very few have signified their intention to come to the reunion, but the replies have contained a goodly amount of biographical information which will appear in these columns from time to time. Mortimer Silverman, who has been living with his sister for the past 35 years, writes that she has recently passed on. He is giving up his home and after a month or so of visiting, will make his home with his son at 4507 S. Rocheblave Street, New Orleans, La. Besides this son Mortimer has a daughter in New York, one grandson and three granddaughters. He has retired but up to recently has been doing some consulting work. We wish him all joy and happiness in his new surroundings.

We have received word of the death on January 26, 1953, of Raymond D. Borden. He entered M.I.T. with us in 1896 and registered in Course I. In April, 1898, he enlisted in the U. S. Navy, on board U.S.S. *Prairie* for the Spanish War. He sailed for Key West and Havana, was on blockading squadron, was present during Santiago and Puerto Rico campaigns. He was honorably discharged as quartermaster in

September, 1898. In his early business career he was in the cotton cloth and yarn business in Fall River and New York. We have no information of his later connections.

Ernest E. Cleveland died on March 29, 1954. He lived in Springfield, Mass., and was state inspector of Public Buildings in Hampshire and Hampden Counties. We hope to have more information of him later on. He was of Course VI as was also Cyrus Corliss who died on April 28th. Cyrus was with the Boston Elevated Company throughout his entire business career. He retired recently and lived in West Roxbury.

A recent check of the class membership lists shows that of the 401 persons affiliated with the Class of 1900, the status of 31 is unknown. Of the remaining 370, 142 are living and 228 are deceased. Of the 178 who graduated with us, two are unknown, 68 are living and 108 deceased. — ELBERT G. ALLEN, *Secretary*, 11 Richfield Road, West Newton 65, Mass.

• 1901 •

These notes will complete the year 1953-1954 and the next installment will not appear until next November. In the meantime why don't those of you who have not yet replied to the Class Letter get busy and send me something. To date I have 31 replies out of about 160 letters sent out. What is the matter with the rest of you? Are you getting too old and senile to realize what it would mean to the rest of the Class? I hope not.

Again I must report the passing of another classmate. Lawrence Butler, IV, died at St. James, New York, on March 26, 1954. I have no other information. I have not yet been able to learn anything more concerning the death of John McGann. I will try to find out something for the fall notes. Here goes for more Class Letter replies. Joseph Gund, I, of Freeport, Ill., says: "I am still at the contracting business at Freeport and notice that most of my old college friends are retired or leaning on a crutch and starting to dust off the Bible." Dr. Robert Bruce of Redlands, Calif., who attended M.I.T. but took his degrees from Harvard and B.U. and was for many years head of the Mathematics Department at B.U., sends me with his reply a short printed sheet which, I think, is worth relaying to you. Its title is "The Man in the Wheel Chair." "As I was walking along one of the busy streets of my home town today I heard someone singing above the noise of the traffic. It wasn't noisy singing — almost like someone singing to himself — yet I heard it. Then I located the singer. He was pushing himself along through the crowd in a wheel chair by the strength of his two arms, the only useful limbs he had left. As I caught up with him I said: 'A man in a wheel chair singing gives everyone who hears him a lift.' He answered, 'When I stopped looking at what I had lost and began looking at all I had left, I could sing again.'" This was a true experience of Dr. Bruce.

Old faithful Ed Seaver contributes his bit as follows: "It is said that if you spend your winters in Florida it will add 10 years to your life, so I am trying to prove whether the saying is true or not and will

make it my last and final 'thesis.'" Have been down here four months so far this winter and have put on five pounds so I cannot say that the climate does not agree with me. Bill Hogle and his wife also have acquired the Florida habit so that Mrs. Seaver and I have enjoyed several 'get-togethers' with them."

Bill Holford, IV, still in Portland, Ore., gives us the following: "I am sorry to learn of Puckey's death. He was one of a small group (Lawrence, Heinrich, Aldrich, Glover, Mathesius and Holford), who returned for advanced work in architecture. Lawrence, Heinrich and I worked for and received our Master's Degrees in Architecture — the first to be awarded, I believe. I am still practicing architecture (not too vigorously) at the same stand, 1209 Failing Building, Portland, Ore. My wife says I should give you the following items. Last fall I was named citizen of the week for my work with the Girl Scouts. The Portland Traction Company carried in its buses my photo and citation. I was honored in the spring by being named 'Volunteer of the Week' on a radio program for my volunteer work with both the Boy and Girl Scouts. In September, on my 75th birthday, the Oregon Building Congress, of which I was then president, gave me a surprise birthday party. Former partner, City Commissioner Ormond Bean, Abbott Lawrence, son of Ellis Lawrence, a Boy Scout representative, a member of the City Planning Commission, a member of the Building Congress and Mayor Peterson delivered themselves of bushwah and the Mayor presented me with the Key of the City. Friends and the members of my family, including two grandsons, were guests. A cake for me and an orchid for my wife were included. In October my wife and I celebrated our 45th wedding anniversary. In January, on my retirement as president of the Building Congress, I was presented with a handsome bronze plaque. These attentions, deserved or not, are much appreciated, especially by my Good Wife."

From Austin Hyde, X, in Damascus, Va.: "Charlie Tufts visited us most unexpectedly in January, with his wife. The Hydes were overjoyed to see them. Haven't seen him since graduation. He took me to task for not coming to the reunion et cetera and not giving much news of myself. I have very little to tell, really. Am partially retired — work on engineering problems during the morning, then nap, read, and repair old furniture in the winter and garden in the summer. Charlie will tell you that this town is a really attractive place to retire in especially since we shall have to live on bread and cheese. Both Mrs. Hyde and I would be delighted to have old classmates come and call."

Albert Galusha, who did graduate work in mechanical engineering and who lives in Verona, N. J., informs us that his news is not for advertising purposes. He says: "Fourty-four patents have been granted to me on gas producers. Wellman Galusha gas producers have been installed on every continent in the world. I have a full time job in New York City. Consulting engineering work evenings and week ends for a gas producer builder in London, England and for another one in Johannesburg, South Africa, is keeping me out of mischief. There is no fool like an old fool."

Here endeth the lesson for this year. May your summer be all that you want it to be. — THEODORE H. TAFT, *Secretary*, Box 124, East Jaffrey, N. H. WILLARD W. Dow, *Assistant Secretary*, 287 Oakland Street, Wellesley Hills 82, Mass.

• 1902 •

Your Secretary has to record the death of two more members of the Class — that of Elmer M. Hervey on November 10, 1953 and that of Thomas W. Foote on March 3, 1954.

It is regrettable that our Class has no record of the activities of Hervey since 1914 but it is hoped to obtain some information for appearance in the fall issue of the notes. From Mrs. Foote and a clipping which she furnished it is learned that Tom passed away suddenly from a heart attack. He had long been associated with the Marble and Shattuck Chair Company of Cleveland, some 40 years, and remained with it until 1946 when the company closed due to the taking of its site to build the Memorial Shoreway, N. E. Foote had many interests outside his business. At one time as the class records show around 1924 he ran a Guernsey cattle stock-farm near Burlington, Vt. At the time of his death he was a member of the Chagrin Valley and the Manikiki Golf Clubs, the Cleveland Athletic Club and the Hermit Club of which he was an early member.

He had a summer home in the Lanford Reserve, Ont., in the Lake Muskoka Region where he enjoyed duck hunting, and his home, Owl's Nest, on Terrance Road in East Cleveland, was one of the urban show places. He leaves a widow, Florence, a son, a daughter and two grandchildren.

Philip C. Pearson has responded to a call for news. He is now Vicar of the Church of the Atonement in Fair Lawn, N. J., which location brings him nearer his son and daughter and which because of the lesser responsibility as compared with his former field gives him a less strenuous life. From a clipping which accompanied his letter it would appear that he is still pursuing his work with his usual diligence and success. The results indicate that in the last year, to quote — "Based on the advances of last year much greater progress has been made in the life and work of the Episcopal Church of the Atonement as shown by the reports at the annual meeting Monday evening. This despite the removal to other municipalities of 24 families — people who attended the services, whose children came to Sunday School, and were active in some phase of the organized work. Thirty-four new families have been contacted all of whom are responding, 13 of them in a very active manner." The article goes on to show how the pledges have been increased over \$1,938 despite loss of the families moving away. The church has been redecorated in part, repaired, grounds seeded, et cetera. "The Reverend Philip C. Pearson, Vicar, was able to report an increase of 98 in number of communions, and an increase of 960 in attendance at the services and of 1,160 in the Sunday School." Certainly Pearson is to be congratulated for his numerous contributions to his Church, and devotion to his parish. — BURTON G. PHILBRICK, *Secretary*, 18 Ocean Avenue, Salem, Mass.

• 1903 •

Miss Angelina L. Weeks, VII, who was with the Class for a part of the time, died in Pittsfield, Mass., on January 8, 1954. For the past several years she taught at Miss Hall's school in Pittsfield. Our Secretary's brother, Augustus, was named chairman for New England of Chemical Progress Week, May 17-22. He is president of the Virginia Smelting Company of Boston. Hewitt Crosby, XIII, is enthusiastic about his new house in Sarasota, Fla., saying "the community is just to our liking with plenty of activities that are worthwhile. The temperature gets up to 90, but we are quite comfortable in our airy little house and plan to spend most of the summer here." He enclosed in his letter, one of Pegler's columns which was devoted to reminiscences of Raymond Hood of our Class who died several years ago, and who designed some of New York's striking buildings. Pegler apparently knew and admired Hood's work. E. Winchester Howell, I, notifies us of change of address to Wycoff, N. J. He retired as secretary and general manager of Mutual Boxboard Company, in October, 1953. A letter from W. P. Regestein tells of his winter in Florida "less pleasant than in other years. March has been cold with a minimum of sunshine and plenty of wind." The Little '03 Reunion which has been held by several men of the Class in Florida was not held, as the men there seemed to be more scattered about the State. Fred took a helpful vacation in Hawaii and in California, and Jim spent the whole winter in California with relatives and friends, record of part of which has already been published. — **FREDERICK A. EUSTIS, Secretary**, 131 State Street, Boston, Mass. **JAMES A. CUSHMAN, Assistant Secretary**, Box 103, South Wellfleet, Mass.

• 1904 •

This letter is not being written as an answer to letters from you, because up to date, no such letters have been received. As you can see from the date (May 16), it is a long time before you will read it.

I find it is difficult to peer into the future and find much about which to write, as I have never had any experience in crystal ball gazing. As you read these words, our 50th anniversary celebration has been a matter of history for some time. If you went to any of the events, you know what transpired and who was present, if you were one of these so unfortunate as to be prevented from attending, for one reason or another, you will have to wait until some later date for the details. You see that the details have not happened when I write these words, and so beyond the statement here that I am sure that "a good time will be or was had by all."

On April 23 we had a luncheon at the Faculty Club at M.I.T. for the purpose of discussing certain details of the then coming 50th anniversary event. We had a fine time together and discussion was fruitful. As you are all aware, I am somewhat rusty on secretarial duties, so I neglected to make a list of those present, somewhat less than 25 in number but needless to say we all enjoyed meeting each other very much.

It was a startling example of how things have changed since we were undergrads

running around Copley Square, and perhaps in and out of Tech Chapel which you may remember was in the basement of the Hotel Brunswick, with a doorway which sported a Gothic arch. Now the Faculty Club is a very modern institution with very attractive quarters in the Alfred P. Sloan building whose foyer reminds one of Hollywood scenes in the movies.

I am of the opinion that you will all agree with me that this letter does not amount to much more than something to take up a little space in the Class Notes section of The Review, but it at least lets you know that you are thought of, and will close these notes with the words, "I hope I saw you at the 50th," and a little verse sent in by a good friend of '03, which made an impression on me.

"If the day looks kind of gloomy, and the chances kind of slim,

If the situation's puzzlin, and the prospects awful grim,

An' perplexities keep pressin' till all hope is nearly gone,

Just hustle up and grit your teeth, an keep on keepin' on."

I think that is a good thought and that it will pay dividends. And so, so long for now. A good summer to you all and you will hear more in the fall.

Correspondence regarding the reunion has brought out the sad facts that Frederick E. Gieseke, V, of New Braunfels, Texas, passed away in June, 1953, and Frederick B. Saegmuller, XIII, of Arlington, Va., passed away in November, 1953. No further information is available.

Another loss by death is Mrs. John D. Mackay of Quincy, Mass., on April 23, 1954. Mrs. Mackay was Martha Kincaide, V. She was active in many civic affairs in Quincy. Her husband who survives her was for many years a highly respected member of the Massachusetts Senate, retiring voluntarily a few years ago. Their son Donald who was an officer in World War II is a prominent attorney in Quincy. — **HENRY W. STEVENS, Secretary**, Whitney Homestead, Stow, Mass.

• 1905 •

In response to my request in the May issue for information as to the present whereabouts of certain "lost" members, Ralph Patch called me up and we had a nice talk about classmates in general. Ralph is another who has retired theoretically, but he seems to be Chairman of the Board of the E. L. Patch Company, Stoneham, Mass., therefore "on tap" for emergency (or minor) matters. The classmate in question was Ilias Murr, I, whom Ralph was quite intimate with during school days, also for quite a number of years after graduation. Murr has been connected with the American College in Lebanon, where I hope to contact him by mail. Charlie Mayer, I, writes from Van Nuys, Calif. (5633 Lemon Avenue), of his removal to California. It seems that Mrs. Mayer had been ill for many months, the change being made to the Pacific Coast partly through medical advice, partly because of a married daughter living there. Eight days after their arrival Mrs. Mayer died.

We hadn't heard from A. Warren Wells for many years, but my special appeal brought forth this: "I would have answered sooner but did not have any kind

of a recent picture in my dress-up clothes. All of them in groups or in my work clothes like one enclosed taken last fall with some of my cows which my wife said would not do. I retired in '49 to live on this Arkansas farm; probably work harder than ever before but seems to agree with me as I feel fine. I married a second time and have three children, two step-children, and five grandchildren. These are scattered from N. Y. to California and from Texas to Illinois, but most of them visit the farm at least once a year. Have plenty of room and certainly would be glad to have any of you '05ers drop in. Hope I can be with you at 50th reunion." The pictures enclosed showed him in costumes befitting his dual positions in the Wells Farms organization, one in executive clothes as Chairman of the Board, the other in work clothes, driving some good looking Holsteins (my guess) to pasture or the barn. His address is Altus, Arkansas, and visitors could find him easily as Mrs. Wells is postmistress. Another Arkansan, Lloyd T. Buell, III, whom I reported on quite fully in the May issue apparently thought the political outlook better in California, for we now address him at 2340 Holliston Terrace, Glendale, Calif.

Frank D. Webster, II, the last I heard (May 13) had left comfortable quarters in Coral Gables to pick up mustard seed in the northwest, for he says: "I am driving tomorrow to Chicago alone via Rochester, N. Y. I was going to drive another 1954 Cadillac in response to an ad in the paper but they told me I was too old. AHM. I was telling a friend about it and he called up and said a pal of his would like some one to drive his car to Chicago and so I will. I drove my own car (Chrysler) to Minneapolis last summer and to Rochester alone so I guess I am not too decrepit. I prefer the auto to the trains as I get a cold in the air-conditioned trains. I fly from Baltimore to Rochester and to Pittsburgh as they only fly 8,000 feet. My doctor rather scared me in attempting to fly but I may yet take a chance as I did fly before I had the Coronary. I do not know how long I will stay in Montana and Alberta, Canada, as it all depends upon the weather. The future business is excellent but the spot business is rotten as they are running down their inventories as the prices for fall are lower. A wise thing to do. Too much pessimistic talk by those who want something for nothing. Why they expect to see business keep on growing without a rest is beyond me as the trees have a rest as well as ourselves and the population is growing each year. People have a wrong conception of life in worshipping money and power and many work because they have to instead of trying to do their work so that they are proud of it and get some enjoyment out of it."

George M. Bartlett, V, (recognize him?) admits receiving a letter from me and that he *almost* replied at once. He reports himself in excellent condition, plays golf three or four times a week. Reports that Walter Burns has retired, spent the winter in Daytona Beach and may move to Providence, R. I. In that case I could find him on one of my trips there, thereby saving him a cramp in his writing hand and a three cent stamp. Bobby, you're no better correspondent than most '05 men.

By the time you read these notes the 49th reunion (Wianmo Club, June 25, 26 and 27) will have taken place, but you can be preparing for the 50th to be held on June 10, 11 and 12, 1955. Even though the place has not been definitely determined, it is very encouraging to find that we already have 76 commitments, including 33 wives, with a great many precincts to be heard from. In his reply one member suggests "Bridge, three minute speeches, music, no baseball." Bet we could still beat '04 and '06 at the latter, even though the insinuation is that we are better in arm chair competition than on the athletic field. One return is from Mildred (Wheeler) Tompson, who says she will attend the 50th if she can bring her husband, since we seek quantity as well as quality. I remember Mrs. Tompson only from Ros Davis' description of her as being the "best looking co-ed at M.I.T." A press clipping tells me that she has been named as chairman for Seekonk, Mass., in the 1954 Cancer Crusade of the American Cancer Society's Massachusetts Division. She has been helpful to me in determining the whereabouts and the maiden names of some of the other co-eds listed as '05. — FRED W. GOLDTHWAIT, *Secretary*, 274 Franklin Street, Boston, Mass.

• 1906 •

The March 25 issue of "Building News," Los Angeles, Cal., included a write-up under the heading "Herbert Mann Named as Assembly Advisor to Counsel State on School Building Costs." Herbert received the appointment from the committee on public school construction which is a subcommittee of the Assembly Interim Committee of Education. Mann is the head of the Pasadena firm of Herbert J. Mann and Associates who act as cost consultants in the building of schools, churches and other public buildings. In accepting the appointment Mann requested contractors to submit suggestions on how to reduce school costs, especially about any experiences they have had in school construction which would point to cost cutting methods. Mann also conducts a weekly radio program on Station KFI in which he has been advising home owners for more than six years on how to save money in building, buying or remodeling a home. Mann has had many years of experience in the construction industry as a general engineering contractor and licensed architect. After graduation he became a construction superintendent in Chicago and later had his own construction firm in Arizona and California. Also he was city building inspector in Phoenix and secretary of the San Diego Planning Commission.

The Secretary took particular interest in reading President Coes' annual class letter not only because of the complimentary adjectives used in connection with his mention of your Reporter but because of its reference to our 50th Reunion, which will be less than two years away when you read this. To have a 50th worthy of the Class means the biggest demonstration of class spirit since 1906. Harold's letter indicated that but 81 out of the 302 on the Class list contribute to the Alumni Fund. It is my understanding that The Review is sent only to those who contrib-

ute to the Fund; therefore less than 30 per cent of the Class read these notes which does not make them a very good medium for reaching classmates. The last part of the President's letter referred to forwarding news to the Secretary for use in the notes. Needless to say I heartily second that idea.

I am happy to add that as a result of Harold's appeal a letter was received from George P. Shingler, dated Fort Worth, Fla., May 12. The letter follows: "I received the first letter about the forthcoming 50th celebration of graduation of the Class of 1906. I had been thinking about it and trying to make preparation for attendance. I thought that you might be interested in a sketch of my career. My present work is as given above (Field Agent for Hospital Visitation Masonic Service as Hospital Visitor to the VA Hospital in Lake City, Florida for the Masonic Service Association of the U. S.). I got into this work after I had fished in the lakes in and around town without as much as getting a bite. I started it in the summer of 1951. I have been married twice. My first wife was Adele Turner of Covington, Ga. She died in 1915. I married again in 1916 Annie Julia Shingler of Donalsonville, Ga. Miss Shingler has the same surname as I do and she has the same background in gum (pine gum from which turpentine and rosin are made) naval stores. We have three living children. A son, Angus J., is a chemist and lives in Atlanta, Ga. An older daughter, Adele, next in age to the son lives in Louisville, Ky., and is married to R. B. Oberlin of WHAS-TV. The youngest, Ruth Alice, graduates from the University of Florida, Gainesville, in 1956. You will be hearing from me from time to time no doubt."

Besides the above letter George submitted a most interesting detailed sketch of his professional career which will be used in a later issue.

The Secretary regrets that it is necessary to report the deaths of three classmates, namely:

Prescott J. Clapp, II. Notice of Clapp's death on March 22 was received by the Alumni Association in response to the Alumni Day notice. The Secretary's card record which goes back to June, 1913, indicates that Clapp spent all of his professional career with the New York State Board of Water Supply. In 1913 he was listed as assistant engineer and was located at Brown Station, N. Y. Subsequently he was located at Grand Gorge and Stamford, N. Y.; but in 1929 was reported residing in Kingston, N. Y., where he lived at the time of his death.

Hunter U. Light, II. In this instance, also, we are forced to refer to our card records. In 1913 Light resided in East Orange, N.Y., and in 1915 was reported as a member of the Public Works Department, Navy Yard, Brooklyn, N.Y. In 1943 he resided in East Orange, N. J., and in 1948 he was reported as being retired and residing at the same address. He passed away on April 5.

Dana M. Wood, I. Dana Wood passed away on Monday, May 10. The following notice of his death was taken from the Boston *Herald* of May 11: "Funeral services for Dana M. Wood, 70, retired chief of power studies for the Tennessee Valley

Authority, will be held tomorrow at 2, in the First Church of Belmont, Concord Avenue, Belmont. Mr. Wood, who died yesterday in Wellesley Hills, was living with his son, Charles of 484 Worcester Street, Wellesley Hills. He was a former Belmont resident, had retired March 1 after 20 years with T.V.A. Before going into government work he was 22 years a consulting engineer for Stone and Webster Company. He was a member of the American Society of Civil Engineers, the American Society of Hydraulic Engineers, and was active in the Unitarian Church. Besides his son, he leaves his wife, Marion, of Wellesley Hills; a daughter, Mrs. Emily Bucit of Belmont, and another son, James E. of Chicago." The Secretary remembers that Wood lived in Belmont, Mass., until 1931 and attended a number of class affairs. After going with the Tennessee Valley Authority he was not in a position to keep up class contact. The Secretary represented the Class at the services in the First Church in Belmont. — JAMES W. KIDDER, *Secretary*, 215 Crosby Street, Arlington 74, Mass. EDWARD B. ROWE, *Assistant Secretary*, 11 Cushing Road, Wellesley Hills 82, Mass.

• 1907 •

George R. Norton of our Class died on April 7, 1954, in San Mateo, Calif. He graduated in the Course in Mechanical Engineering and for a year was a civilian test engineer at Watertown Arsenal, Watertown, Mass. In 1908 he was commissioned a lieutenant in the Army and served for three years in the Coast Artillery before being transferred to Ordnance. At the outbreak of World War I, Colonel Norton was officer-in-charge of the shops at the Springfield, Mass., armory. He was soon transferred to Washington, and then to France. He was appointed an officer of the Legion of Honor by the French government and was cited for meritorious service by General Pershing. After the armistice he returned to Washington and in 1919 resigned his commission remaining a colonel in the Reserve, and went to Pittsfield, Mass., as an industrial engineer with Eaton, Crane and Pike Company, paper manufacturers. In 1927 he became assistant to the company's president, and in 1930, as assistant treasurer, was appointed Pacific Coast manager, located in San Francisco. In 1942 the West Coast branch was closed and he returned to Pittsfield as general plant manager. On July 31, 1950, he retired and returned to California to live. George was formerly active in musical circles, having been secretary of the Pittsfield Community Music School, chairman of the music committee at the First Congregational Church, and a member of the Pittsfield Symphony Society and the Berkshire Symphony Orchestra. He is survived by his widow, the former Mae Blackmar of Danielson, Conn., 3140 Edison Street, San Mateo, Calif., and by a son, Robert, also of California.

Bob Rand, who was head of the reinforcing steel department of the Boston office of the Bethlehem Steel Company, retired on March 31, 1954, after 45 years in the concrete reinforcing steel business. He started in 1909 with Edward A. Tucker, a pioneer in reinforced concrete and New England representative of the

Corrugated Bar Company. In 1912 he was made district manager of sales for the Corrugated Bar Company and continued in this position until 1924 when that company was absorbed by the Kalman Steel Company. In 1931 the Kalman Company was taken over by the Bethlehem Steel Company, and Bob continued in charge of reinforcing bars and steel sheet piling. Called to active service as a lieutenant in the Navy in 1917, he saw overseas duty for two years in World War I and was on Admiral William S. Sims' staff at the Naval Headquarters in London. In 1943 he was called back into the Navy as a lieutenant commander and was stationed for a year in Washington and for 17 months at a naval air station in the Hawaiian Islands. Bob and his wife live at 7 Prentiss Lane, Belmont 78, Mass.

Through the courtesy of Merton Sage of our Class I received a copy of a notice regarding the May 27, 1954, meeting of the New York Section of the American Institute of Mining Engineers, where the speaker was Warren Hastings, who is mine superintendent of the Sterling Mine of the New Jersey Zinc Company at Ogdensburg, N. J. Warren has been in charge of the development of the Friedensville, Pa., mine of this company. Frederick T. Moses is chairman of the board of both Firemen's Mutual Insurance Company, founded in 1854, and Union Mutual Fire Insurance Company, founded in 1863. A new and beautiful home office building, housing both of these companies, located at 150 South Main Street, Providence, R. I., was completed in April of this year.

Our Class President, Alexander Macomber, was afflicted with a cerebral hemorrhage on April 16, so serious that he was in a coma for three days. He was taken to the New England Baptist Hospital in Brookline, a suburb of Boston. At the time of writing these notes (May 15), he was progressing comfortably and expected to be able to return to his home, 317 Marlboro Street, Boston, on May 20. Phil Walker and I had a basket of spring flowers sent to Mac on behalf of the Class while he was in the hospital, and I received an appreciative note from Mrs. Macomber. Hud Hastings wrote me last May that on January 4 he was hit by a mild coronary thrombosis, which left him in bed for two months and confined to the house for another month and a half. As of May 1 he was out again, driving his car, and going to his office for a few hours each day. His doctor told him that he could begin to play golf again in June, but he would be limited to nine holes this year! He retired from Yale University on July 1.

Emerson Packard, who now lives at 94 Morgan Street, Melrose, Mass., is right-of-way engineer for a concern that will take natural gas to the State of Maine. He has charge of buying the right-of-way. Three new addresses, without further information, have come to me from the Alumni Office: Alfred A. Brooks, Course II, is with Chugach Electric Association, Inc., Knick Arm Power Plant, Box 488, Anchorage, Alaska. Sheldon P. Thacher, Course V, 4433 Summit Drive, La Mesa, Calif. Henry T. Vogelsberg, Course I, General Delivery, Waveland, Miss.

In May Seymour Egan wrote me of a trip that he took last April that included Muscle Shoals, Mobile, and Gulfport, and said that during a half-hour wait between planes at Louisville, Ky., he talked on the telephone with Everett Cowen, who is engineer and estimator with Struck Construction Company in that city. Bill also wrote that last fall he telephoned to Frederick Bachman of our Class, who is senior partner with Kenyon and Kenyon, patent attorneys, 165 Broadway, New York City. He said that Fred seemed "happy, unworried, and unhurried, if voice and manner proved anything."

On May 14 a class gathering was held at the M.I.T. Faculty Club in Cambridge. We evidently selected an unfavorable night, for several of our stand-bys were prevented by illness, or absence in distant places, or previously arranged engagements, from attending. Only nine men were present: Gene Banfield, George Crane, Bill Egan, Tom Gould, Hermann Mahr, Harry Moody, Bryant Nichols, Phil Walker, and Stanley Wires. We had a very pleasant evening, however, partaking of a delicious dinner, interchanging information regarding some of our classmates, and listening to a most interesting and enlightening talk by F. Leroy Foster, Sc.D., M.I.T., 1925, who is associate director of the M.I.T. Division of Industrial Cooperation. The information that Dr. Foster gave us regarding the amount of money involved in research work for the government and for private industry, the number of people employed by the Institute on these various research projects, and their enormous and far-reaching extent and influence impressed us old-timers as almost unbelievable, and we realized that Tech is really in "big business."

As of April 30, 32 per cent of our Class had contributed \$4,032 to the M.I.T. Alumni Fund, the average contribution being \$46.30. Only the Class of 1911, with 33 per cent, had a higher percentage of contributors, and only four classes had a higher average figure. — BRYANT NICHOLS, *Secretary*, 23 Leland Road, Whitinsville, Mass. PHILIP B. WALKER, *Assistant Secretary*, 18 Summit Street, Whitinsville, Mass.

• 1909 •

This is the last number of The Review until November, some four months away. These notes are being written on May 15, four weeks before the reunion and when this number is received the 45th Reunion will be past history. At this time, however, we are sure that we are safe in stating that it was a grand success. In the November Review we will describe the Reunion in some detail, not only for the benefit of those who could not attend but also as a permanent class record. On behalf of the class officers we wish everyone a most pleasant and happy summer.

We have just received a clipping from a Hartford, Conn., paper, we assume, headed with a picture of Johnny Nickerson, II, consulting engineer. He has recently been named a Fellow of the American Society of Mechanical Engineers. The honor was received at a conference luncheon in New York. The Class extends its congratulations to Johnny on his receiving this high honor. As we have

already pointed out in these notes, in 1951 Johnny was appointed to a key post with the Economic Co-operation on a part-time basis and he is now assisting the government in the advancement of the E.C.A. program in Europe.

We have received a clipping from the Portland, Maine, *Press-Herald* telling of the death of Clifford Hamilton Preston, IV, at the age of 73 years. Our records show that he was first connected with the Class of '08 and was a member of our Class only in his sophomore year. He has been a teacher all his life in schools in Maine and at one time was director of Parsons School of Design in New York. He is survived by a nephew and two cousins. — CHESTER L. DAWES, *Secretary*, Pierce Hall, Harvard University, Cambridge 38, Mass. *Assistant Secretaries*: HARVEY S. PARDEE, 549 W. Washington Street, Chicago 6, Ill. MAURICE R. SCHARFF, 366 Madison Avenue, New York, N. Y. GEORGE E. WALLIS, Wenham, Mass.

• 1910 •

It is with sorrow that I have to announce the passing of George L. Mylchreest on April 25 and Ralph Albion Drury Preston on May 16. George had been in ill health for the past two years and recently resumed active duty with his firm of Mylchreest and Reynolds in Hartford, Conn. The following is from the New York *Herald-Tribune* of May 17: "Ralph Albion Drury Preston, 65, former champion balloonist, died here today at his home, 44 Rockridge Road (Mount Vernon, N. Y.). In 1913 Mr. Preston was co-pilot with Ralph Upson of the American Balloon Goodyear that won the James Gordon Bennett Trophy with a free balloon flight from Paris across the English Channel to England. In 1914 he won the national free balloon title in the United States and qualified for the Gordon Bennett competition, but it was canceled due to the outbreak of World War I. In 1918 he piloted a dirigible for a long distance record flight from Akron, Ohio, to Far Rockaway, Queens. Mr. Preston was with the Goodyear Rubber Company of Akron until 1921 when he came to New York. He retired three years ago as a customer's man for Dillon, Read and Company, of New York City. He was a former member of the Huguenot Yacht Club of New Rochelle, N. Y., and the Community Church at the Circle in Mount Vernon."

I received a letter from Cliff Hield recently. Cliff says "but they did have me out of circulation for several weeks but am feeling fit again." Kenneth Armstrong who has moved to Florida writes as follows: "I believe the last time you heard from me was when I gave my alibi for not attending our 40th Reunion because I was delayed in returning from an inspection trip to Roberts Field, Liberia. At that time I was engineer of pavements and grounds in the Military Air Transport Service, and traveled rather widely to domestic and foreign places. I continued on that job, making several more trips, for nearly two years longer, and then retired. My wife had a heart attack in January, 1952, making it desirable that I cease traveling. As I was eligible for civil service retirement I did so as soon as I could arrange it,

which was the following April. However, in order to keep busy and make a little extra money I took a job with the Department of Public Works of Prince Georges County, Maryland. One year later my wife had another attack while visiting our son here in Florida, and passed away before I could get here. We arranged to have her funeral in Washington so that her many friends there could attend, and the services were put on by her Eastern Star Chapter, of which she was a Past Matron. After that I did not have the heart to continue to live in Washington, with its many memories of our 37 years of happy married life, so I returned with my son to try to start a new life in Florida. I have been to Washington only once since then, in July of last year, when I made arrangements to dispose of our home there, and also welcomed the arrival of our 5th grandchild who was born to our other son, Howard, and his wife.

Though retired, I am still quite busy. My son has owned a four-family apartment house since he came here about eight years ago, and formerly lived in one of the apartments. About the time of his mother's death he purchased a new home then under construction, and moved in last October. I designed and have been superintending the construction of an addition to it so that I will have a place to live without crowding him and his family. This addition is now nearly complete, and I expect to move in within the next month. My son still owns the apartment house, and I am presently living there in a room in one of the four apartments which has been cut up into rooms. Since the apartments are rented furnished, the furniture in my house in Washington came in handy to furnish the new house. I sold the Washington house last January. As you will see by the enclosed copies of the local newspaper I have been here long enough to acquire the right to vote. I thought this little publicity stunt might be of some help to my friends in Washington who have been fighting for the right of suffrage for many years. Opa Locka is a suburb of Miami, about 12 miles from down town.

I have already become active in many of the local affairs, and expect to make my home here for the rest of my life. I am a frequent visitor at meetings of the local Masonic lodge and Eastern Star chapter, of which my son and daughter-in-law are members, respectively. For sentimental reasons (I am a Past Master and my wife was a Past Matron) I have retained my membership in those organizations in the District of Columbia, but I have transferred my memberships in the Scottish Rite and the Shrine to Miami. I am also active in the M.I.T. Club of South Florida, and now have the job of sending the reports of meetings to the Technology Review. Altogether, I believe I can find enough to do to keep reasonably busy, now that I don't have to work for a living. The climate here is ideal at all times of the year. Life can be very easy if you want it so, but if you want activity it is very easy to find it. By way of statistics: I have three grandchildren here, a boy of 16, a girl of 14, and another boy of 11 years. I have two more grandchildren in Washington, a girl 2½ years old and the boy who was born last July. My son William, here,

is a sergeant in charge of the motorcycle squad of the police force of the City of Opa Locka. Howard is on the Metropolitan Police Force in Washington. I never thought I should raise my two sons to be cops, but the war got their higher education all fouled up, so they couldn't get to be big-shot (?) professional men like their Dad. However, they are doing all right. Somebody has to protect the rest of us." — HERBERT S. CLEVERDON, *Secretary*, 120 Tremont Street, Boston, Mass.

• 1911 •

Continuing his dire warnings to be on the alert for a possible sudden attack in the air by Russia, our General George Kenney, I, as president of the Air Force Association of America addressed the California Wing of the Association at Santa Monica in late April and emphasized that "the Red capabilities are greater than we think and our capabilities of defense and retaliation are not as good as most of us think."

Stating that he is afraid the time between today and the day of the test is "much shorter than we think," George continued: "Too much of our bomber force is already obsolete or obsolescent and we haven't enough modern fighters to guard our overseas bases and protect the homeland. This force will cost money, but not as much as the explosion of just one modern bomb on one of our largest cities. A full-scale attack could destroy a score of our large cities and inflict 20 million casualties.

"We need a knockout punch in our strategic bomber force now, not some years in the future. We need a far better air defense than we have now and with the power of modern weapons, the decision will very probably come as a result of the opening attack. We will gain or lose that decision with what we have the day the whistle blows from the Kremlin."

More good news on Bill Orchard, XI, recently retired Wallace and Tiernan executive. On Monday, May 24, Bill will receive the John M. Diven Medal of the American Water Works Association at that group's annual meeting in Seattle, Wash. The citation from the officers and directors of the A.W.W.A. reads: "In recognition of his many years of devotion to the Association and to the water supply industry; for his remarkable discretion, bold approach, and inspiring enthusiasm in the promotion of its broadening objectives; for his genius as a person which has endeared him to his associates and promoted so much good will and understanding between the producers and consumers in the water supply field; the John M. Diven Medal of the American Water Works Association is presented to you, William John Orchard."

In addition to this signal honor, Bill has also received recently the following citation: "Long known for his missionary efforts in carrying the message of sanitation to the four corners of the earth, one of the initial sponsors of A.I.D.I.S. and co-nurturer in its infancy, always its staunch supporter, in recognition of his efforts, which together with those of Henry W. Foulds, provided the initial financing of A.I.D.I.S. and insured the success of its two preliminary meetings at Rio de Janeiro and Caracas, and the founding of *Ingenieria Sanitaria*, its journal, BE IT RE-

SOLVED: That William John Orchard is hereby designated to receive the award of the U. S. A. Section of the Inter-American Association of Sanitary Engineering in recognition of his outstanding efforts in behalf of hemispheric sanitary engineering."

It sure is wonderful, Bill, for you to receive this well-deserved recognition. We of 1911 are proud of you! Little did you and I think, when we worked with Professor Breed '97 and Instructor Charles Allen '07 as transients in the summer of 1908 running a mapping survey of Edgell Grove Cemetery here in my native town of Framingham, that during the next two decades you would rise to the top in the field of sanitary engineering. Nice going!

Harry Tisdale, V, and his popular wife, Grace, have realized their retirement dreams and are now living in Waterford, Conn. Harry writes: "We moved down from Scarsdale on April 27 and while we have Sunset Drive, R.F.D. #2, New London, Conn., as a mailing address, our new home is in Waterford — about five miles from New London on Route 156 and about three miles from Niantic, where we do most of our shopping, as things there are less congested than in New London. We're only one and one-half miles from the Niantic River, where I can do some fishing — either salt or fresh water — when the spirit and time permit."

May you both live long and prosper in your new surroundings!

Had a fine call from Art Coupal, II, 382 Adams Street, North Abington, Mass., recently. Art has been in the engineering department of Bethlehem Steel Company, Quincy, Mass., for the past five and one-half years, but unfortunately has been laid off along with many associates due to a reduced amount of work at the big shipyards just outside Boston. Art said he would like to make a new connection and he outlined to me his earlier experience, which includes a long term as mechanical engineer at the Watertown Arsenal, Watertown, Mass., and several years as tool engineer with Holtzer-Cabot Company, Boston.

Art spent a year and a half with us, following graduation from Mechanic Arts High School in Boston, and then attended the Lowell Institute for Industrial Foremen for four years, graduating with experience in machine design, heat treatment of steel and industrial management. His engineering society memberships include American Society of Mechanical Engineers, American Society of Tool Engineers and American Federation of Technical Engineers. Any suggestions that classmates or others may have will be gratefully received by Art at his North Abington address. He has always been one of our active members over the years.

A nice picture of President Carl Ell, XI, of Northeastern University, Boston, in the *Boston-Herald* recently showing Carl presenting a testimonial plaque to Frank Berry Sanborn, head of Sanborn Company, Boston instrument manufacturers, at a dinner of the Northeastern University Co-operating Employers' dinner. Another Bostonian, A. O. Wilson, I, Head of A. O. Wilson Structural Company and recently president of the Cambridge Chamber of Commerce, is in the party of industrialists

now touring Denmark, Norway and Sweden under the sponsorship of Associated Industries of Massachusetts.

Had a note from Charlie Maguire's widow, Corinne W., thanking us for our sympathy in her late husband's death in March. From Charlie's secretary more details came: "Upon returning from a trip to Washington last October, Mr. Maguire suffered a severe heart attack. He was hospitalized for three weeks and had to rest at home for six more weeks. He seemed to have recovered remarkably and in fact was able to get down to the office several times during January and February. However, two weeks before his death he suffered a set-back and had to return again to bed, where on the morning of March 24 he died peacefully and suddenly."

At this mid-May writing Alumni Fund returns are 10 months along (through April 30) and 1911 still heads the list of classes with 33 percent participation, 109 '11-ers contributing \$2,800.50 for a \$25.80 average (Fund average \$22.20). Oh, by the way, President Don Stevens wrote recently that Admiral Luis deFlorez, II, "stole the show" on the TV "Adventure" program, Sunday evening, April 25, on "The Theory of Flight."

Here are two address changes just received: Donald N. Frazier, II (just retired), 328 Lexington Road, Richmond 26, Va.; and Professor Gordon B. Wilkes, II, Post Office Box 151, East Orleans, Mass. Thus closes another edition of 1911 class notes, in which we have had news in all nine issues—maintaining that 100 percent record for 1911 class notes over the past 43 years! Have a fine summer, classmates and "Write to Dennie" whenever you can! —ORVILLE B. DENISON, *Secretary*, Chamber of Commerce, Framingham, Mass.; JOHN A. HERLIHY, *Assistant Secretary*, 588 Riverside Avenue, Medford 55, Mass.

• 1912 •

Goats Allen has been under the weather for sometime having been at the Lahey Clinic and followed by over three weeks at the New England Baptist Hospital with another two weeks at home before getting on his feet again. He is back at Lahey for a checkup this week and hopes to get a clean bill of health which will allow him to be at the Reunion in June.

Our Irwin Schell recently spoke before the Lakes Region Y.M.C.A. Industrial Management Club at Laconia, N. H. His subject was "New Frontiers for Foremen" which is a very important subject in these days of labor unrest.

Howard F. Clark writes that five years after graduating, he received a Reserve commission in the American Corps of Engineers which was converted to a regular commission in 1920. He served through both world wars and retired in 1945 with the rank of Colonel.

He has two daughters one of whom is with the American Embassy in Brussels and the other in defense service in Washington. After retirement Howard spent five years on consulting engineering work in Chicago and returned to the West in 1950 to accept a position with the Chino Basin Municipal Water District. This is the middle party between the water user and the Metropolitan Water District

which owns a 220 mile aqueduct from the Colorado River. He now rates as general manager and chief engineer.

Ross Rathbun is now living at 701 Brent Avenue, South Pasadena, Calif. I have written for further details as he was recently in Maine, and hope to report later.

With notes so few, I am forced to tell you a little about myself. My youngest son recently presented the family with twins, a boy and a girl which makes the total grandchild quota up to 10.

Word has just reached us from Bob Chandler that he has been on sick leave from the Army Air Force for sometime. He has been living in Jacksonville making occasional trips to Washington for check-ups. He expects a clearance on his next trip and expects to be with us at Snow Inn in June with his wife.

Vincent L. Gallagher continues his rise in the Pearl Assurance Company as he has just been appointed U. S. Manager. This promotion carries with it assurance of election as president of the Pearl's two American associates: the Eureka-Security Fire and Marine Insurance Company and the Monarch Fire Insurance Company.

Carlos P. Echeverria writes that he expects to spend about nine months of the year on a ranch which he has just purchased at Montezuma, Ga. Part of his letter follows: "We have now 600 acres of cleared land and about the same amount in woods, mostly young pine. We have 135 head of registered cattle and a few horses and most important of all—three cowboys from Old Mexico. So, as far as atmosphere is concerned, we are the only ones in the East that have it. Am going back to the University Hospital in Augusta, Georgia for an operation tomorrow. The X-rays showed a shadow next to the lung; however, if at all possible, count me in on the June Reunion." —FREDERICK J. SHEPARD, JR., *Secretary*, 31 Chestnut Street, Boston 8, Mass. *Assistant Secretaries*: LESTER M. WHITE, 4520 Lewiston Road, Niagara Falls, N. Y. RAYMOND E. WILSON, 8 Ogden Avenue, Swarthmore, Penn.

• 1913 •

Another lapse of news has occurred. Your Scribe has been overwhelmed with the business affairs of conducting the appearance and up-keep of the several buildings of the Boston Lying In Hospital with a much curtailed supervisory staff. Maybe there should be a senate investigation?

Another classmate has retired—Dr. Donald B. Armstrong. He has served the Metropolitan Life Insurance Company with distinction as executive director, assistant secretary, fourth vice-president, second vice-president during the past 37 years. He received degrees from Lafayette College, M.I.T., and the College of Physicians and Surgeons, Columbia. As a member of the National Health Council, the New York Tuberculosis and Health Association, the Greater New York Safety Council, the American Hygiene Association Committee of the New York Academy Council and the New York Cancer Committee, chairman of the Medical Information Committee of the New York Academy of Medicine, president of the New York Public Health Association, the American Museum of Safety, the National Health

Council and many others, he has found time to write many treatises and deliver lectures on many health and safety subjects.

William George MacTarnaghan writes that he retired from architectural work in 1950. He and his wife spend their summers in Genesee County on their farm, their winters in Florida, address Fort Meyer, and in between times at their home in New York City. He does nothing in particular but is just as busy as ever. Oh yes, W.G. occasionally does watercolor sketches. From my seat, I should judge they spend a lot of time packing.

It seems that almost every letter informs me of a contemplated or actual retirement. Ralph S. Rankin writes from Siesta Key, Sarasota, Fla., stating that one of his chores as a retired engineer is to write his own letters (in long hand). He retired from the American Telephone and Telegraph Company at the end of January, 1953. Has moved to Florida with its wonderful winters as well as being his own boss. Ralph spends his busy days swimming, fishing, cruising, building Chris Craft cruisers on the Gulf of Mexico situated between two keys on his shore property. His two daughters are happily married, and our boy has three grandsons and two granddaughters; several of these children spend considerable time at Siesta. This banjo player and wife spend several months in Mass., Long Island and Fishers Island. Why not come to Boston this year? We shall welcome you and yours. He hopes to see Gene Macdonald shortly as Mac's firm is building bridges and roads around Sarasota. I am looking forward to your Boston visit.

Howard S. Currier reports from 1228 South Third Avenue, Arcadia, Calif. (the Greek Colony, maybe?). We quote, "After reading your most compelling and provocative bulletin, just received, which appeals to 1913 men to send along their news items, I am glad to be able to report an item concerning myself which is apropos. This does not happen often, with me, as it seems that one seldom has any news items worth submitting for your Review column. You can see from the address above, which is my new one or latest one, after many previous changes of address, that I have accepted California's call and really intend to stay put out here. We left Detroit with a loaded car early in November and after a considerable period of investigating various spots out here, as possible home sites, settled on Arcadia. Probably most people know this city only as the home of the Santa Anita Race Track, which it is; it is in foothill country just about eight miles due south of Mt. Wilson on the map, but about forty miles from here up to Observatory over the nearest highway route. This is an interesting little place, which up to only a few years ago was known mostly as the "egg-basket of Southern California." In the older part, where there are still many large acreage parcels of land, one can see an occasional sign at the curb offering the sale of chickens, eggs, pigeons, turkeys, chinchillas, camellias and orchid plants, or what have you. I found the views of the mountains nearby most inspiring, and have just recently purchased a brand new home, so that I am largely engaged these

days in landscaping operations, the securing of furnishings and equipment needed, and so on. If any of the class members happen out this way I would be glad to have company and show them around. Best regards to all the gang back East."

Ike Eichorn and his charming wife, Dorothy, sailed on the M/S *Vulcraria* for Spain, Italy, Switzerland and France, February 25 and expected to return to the States in early May on the *Liberte*. We surely hope you enjoyed that trip, Newt. By the way Ike resigned from active business last July. I'll bet he is actively sitting in a lawn chair right now at 91 Beach Bluff Avenue, Swampscott, Mass. Sherman R. Ramsdell amends our much libelled circular letter thus: "We live in a mobile home (house trailer to you). Since I don't know Joe's address, could you get the enclosed check to him? Thanks." Try M.I.T., young man. More briefly: "Still at Sears Roebuck and Company, Source Development Engineer." Signed Vernon G. Kay, 5060 Marine Drive, Chicago, Ill. Lawrence A. Bevan, Director, N. H. Extension, Durham, N. H., says "Thar's gold in them hills" end of quote. Very formal: "Dear Mr. Capen: Your recent note was appreciated. Although I left M.I.T. when I had only been there nearly two years and went to college at the University of Massachusetts, I have always been interested in the Class of '13 of M.I.T. and all its activities."

"I believe that the training I got at M.I.T., during the rather limited period I was there, has been very valuable to me. I am engaged now in what we call extension work in agriculture and home economics located at the University of New Hampshire. You may have heard of County Agriculture Agents, Home Demonstration Agents and 4-H Club Agents, which are located in most counties of the United States. They carry on an informal out-of-school type of education which many think is one of the contributing reasons why the United States is able to feed itself with such a small portion of farm people and also export considerable quantities of food to other nations. It takes me over many parts of the United States, and while it does not include technical engineering, it is absorbing and interesting. I am enclosing a dollar for my dues, would you pass it along to the proper person." Joe or Joseph C. MacKinnon, the Registrar of M.I.T. is the watch-dog of our Treasury.

"Picture ahead, kodak as you go" Jerry Lane, Eastman Kodak Company, Rochester, N. Y., remarks: "I am enclosing check for the class dues for Joe MacKinnon. His desires for money are certainly very modest. It is especially interesting to read of the three of our retiring classmates to California, as I am planning to do that some time during the next year. After working 41 years, it seems about time to take it easy in the sunny clime even though I have three years to go before normal retirement time. There is no special news about me. I am still assistant general manager at Kodak Park Works, and have had a very enjoyable time over my years in the manufacture of photographic goods. It has been lots of fun and I shall certainly miss it, but it seems wise to leave when you are still enjoying your work and health."

The following have forwarded their class dues: Joseph H. Cohen, 178 Dudley Street, Brookline, Mass., A. M. Mutersbaugh, 912 Clarence Street, Lake Charles, La., P. B. Terry, 47 Lazell Street, Hingham, Mass.

The many friends, classmates of our ever loyal and hardworking Institute and 1913 man, R. Charles Thompson were terribly shocked when the very sad news was received that Charlie's most gracious wife, Hester, passed away very suddenly while spending a quiet evening in the seclusion of their home. It has been reported that she had had a few minor warnings but still continued her very full and busy life. This adopted daughter of 1913 was a graduate of Wellesley and was very much interested in her *Alma Mater* and class as her beloved husband. Mere words can not express the grief which all of her friends feel in her passing. March 31, 1954, will ever be remembered by me when one of my childhood friends entered her last peaceful sleep. So, Charlie and those dear ones she left behind, please accept our most sincere sympathy.

Rhys H. North, 2713 Bayview Boulevard, Portsmouth, Va., writes he retired January, 1953, from his job as supervisory architect for fifth Naval District. R.H. and his wife took a six-months trip of the United States starting January 11, 1953, covering 17,000 miles while making 70 sketches, and Mrs. North kept the "log" and collected many post cards and photos. He has a studio in Portsmouth, painting and holding classes. In the summers he spends five months at their camp at Oxford, Me., on Thompson's Pond, expects to have art classes up there this summer. His son, Arnold, has five children and lives in Danbury, Conn., working at Dorman Helicopter Company. His daughter lives in Binghamton, N. Y., with two little boys. R.H. is enjoying life, but like most of us and the Old Mare, we ain't what we used to be. Give us a call or let us know when you will be coming through Boston.

I know you will all be sadly surprised to learn that several of our loyal reunion workers have been hospitalized. Charlie Thompson is under observation at the Newton Hospital; our Associate Chairman of all reunions, Mabel Mattson was at the Newton hospital, our much loved William Ready is under observation at the Phillips House, Massachusetts General Hospital. From the latest bulletins we know they all are making or will make a speedy recovery. Will see you all in the pink on Alumni Day. Well, to all you patient readers (I hope), look for our column next month, we still have more news. — FREDERICK D. MURDOCK, *Secretary*, c/o Murdock Webbing Company, Box 788, Pawtucket, R. I. GEORGE P. CAPEN, *Assistant Secretary*, 623 Chapman Street, Canton, Mass.

• 1914 •

Jim Reber of Auburn, New York, has been spending the winter in Florida, but just as he was preparing to return home, Mrs. Reber became ill and required a serious operation, which delayed the return about six weeks. Jim had written to several Fourteeners regarding the reunion, and some of the replies contained items for these notes.

One of these letters came from Lyman Baird, who had made St. Paul, Minn., his home since graduation. During World War II, Baird returned to the Army as a captain of artillery and was assigned to an anti-aircraft battery stationed at San Diego. He and his wife liked the region so well that Baird sold out his house and business last fall and bought a new home in San Diego, where he hopes to stay put.

Johnny Leathers wrote that he expected his "old car" hobby would prevent him from attending the reunion. Leathers has been nominated as a member of a team of 10 American drivers who will drive middle-aged sports cars against an English team this summer. The tour starts in Edinburgh and runs 850 miles through England, winding up on the south coast with hill climbing and speed trials. Leathers represents in the Boston area two Connecticut companies that manufacture special types of castings. He also proudly reported that he now has seven grandchildren.

Freeland Leslie wrote that he would come East just two weeks before the reunion, and as he must return to Chicago, he did not think it would be possible for him to turn around and head back East so soon again.

Clifford L. Muzzey, who lives in Lexington, Mass., advises that he has been quite ill and has spent much of the time since last December in the hospital with a total of four operations. He is now at home and on the road to complete recovery. However, his illness prevented him from attending the reunion.

Another belated notice of the death of one of our classmates has just reached your Secretary. Leroy Nicholas Brown of Course X died in 1950. Although for many years Brown was manager of the Cleveland office of the Chicago Pneumatic Tool Company, at the time of his death he was a resident of Utica, N. Y. His wife survives him. — H. B. RICHMOND, *Secretary*, 275 Massachusetts Avenue, Cambridge 39, Mass. ROSS H. DICKSON, *Assistant Secretary*, 126 Morristown Road, Elizabeth, N. J.

• 1915 •

What a Class! As these notes are being written we are all looking forward to the pleasure of seeing many of you from all over the country at the Class Cocktail Party on Alumni Day at The Algonquin Club, Boston. Al Sampson and Barbara Thomas worked hard to put this over successfully.

Good news from our Class Agent, Max Woythaler who reports as of April 26 in the group of classes from 1910 to 1919 inclusive we stand second in the number of contributors (122); fourth in the amount contributed (\$3,325) and fourth in the average contribution (\$27.50). Keep up the good work and help Max hit his quota for this year.

What a Class! On April 23 at the M.I.T. Faculty Club, Cambridge, Mass., 43 classmates and their guests met for one of our most successful class dinners. You can see from the following list that they came from near and far: Roland Baldrey, Wayne Bradley, Whit Brown, Bill Campbell, Alan Dana and his son Alan, Jr., Dinger Doane, Viking Enebuske, Abe Hamburg's son David, Loring Hayward, John Homan, Weare

Howlett and his brother Ralph, Edwin Goodell, Jr., Clive Lacy, Larry Landers, Azel Mack and guest Jim Hoey, Jr., '43, Hank Marion, Arch Morrison, Pete Munn, Frank Murphy, Harry Murphy, Ben Neal, Charlie Norton, Stanley Osborn, Wally Pike, George Rooney and guest R. W. MacCormick, Al Sampson, Henry Sheils and his son, William Sheils, and guests James Tonra, Herbert Albee, and Rudolf Slater, Ed Sullivan, Burr Swain, Herb Swift and guest Blaylock Atherton, Easty Weaver, Carl Wood, Max Woythaler and his guest Louis Clements. It was a pleasure to see so many guests who have been with us before and particularly to welcome sons of the Class: Alan Dana, Jr., William J. Sheils, and David Hamburg who represented Abe while Abe and Haya are touring in Italy. Unfortunate last minute cancellations undoubtedly kept us from reaching our ambitious goal of 50, but we'll make that some time. Long-time no-see attendants were Wayne Bradley, Alan Dana, John Homan and Burr Swain who kicked in with an extra dues check. Our big-hearted son of Maine, Al Sampson, gave everybody a take-home present of a big box of "Swirl" made by his company. The Class presented Hank Marion and Larry Landers with suitably engraved silver plates in appreciation of their fine work in making the January 15 dinner in New York such a tremendous success. In fact, Larry has already confirmed arrangements with The Chemists' Club in New York City for another 1915 Class Party there on Friday, January 21, 1955, so plan your winter schedules accordingly.

At the Boston dinner, Max and Weare announced completed plans for our June 10-13, 1955 Fortieth Reunion at the new Coonamessett Ranch in Falmouth, Mass. (on Cape Cod). We'll come back to Boston on Monday, June 13, 1955 for a Cocktail Party for the ladies. Competition for the valued long-distance prize at this Boston dinner was very close among Al Sampson, Beverly; Whit Brown, Concord; Loring Hayward, Taunton; John Homan, Beverly; Max Woythaler, Framingham; Harry Murphy who tapped his way up from Hingham; and Charlie Norton from across the sea at Martha's Vineyard. These were all from distant Massachusetts points. Then we had to fight it out among Wayne Bradley from Southport, Conn.; Alan Dana from Seymour, Conn.; Speed Swift from New London, N. H.; Burr Swain, Bill Campbell and Hank Marion, all from New York City — and the winnah! — Ben Neal who flew in from Lockport, New York. It was indescribably wonderful to have this contingent of long distance men add so much to the gaiety of the evening. Jack Dalton was unfortunately at a business meeting in Atlanta, Ga., and had to miss being with us.

In the middle of March, while Max and Catherine Woythaler were in Mexico City, they attended the M.I.T. Club Fiesta there, extra gay as Lobby was being married that day. Bob Mitchell was there at the same time. The Grandfathers' competition has aroused some new entrants: Easty Weaver has nine grandchildren; Dinger Doane, six; and Burr Swain, four. Any more contestants?

One of the outstanding guests at our Boston Dinner was Speed Swift's friend,

Blaylock Atherton '24, of Nashua, N. H. He is a former president of the New Hampshire State Senate and was recently appointed a permanent member of the State's Public Utilities Commission. Nice to have you with us, Blay, and hope you'll adopt 1915 to come to our next dinner. While mentioning Speed Swift, I must tell you how he sent in his class dues check. My letter was returned with the conventional hearts pierced with arrows drawn all over it, a big red blot in one corner marked "blood" with the notation, "My valentine to you, bleeding for 1915."

As careful and as accurate as the Alumni Office and my own is, we were surprised to get this reply to the dues letter from William R. Lewis of 307 West Forrer Street, Lockland, Ohio: "Please take my name off your list; I am not the William R. Lewis of that good old 1915 Class. I was only 15 years old at that time." From a traveling classmate, Joe Livermore, we got a postcard from Lima, Peru. Joe wrote, "Just starting home from a three week trip through the northern part of South America. Had a most interesting time. Here's to our Fortieth Reunion!" We'll be looking for you, Joe. Doug McMurtrie, whom we hadn't seen for a long time, dropped into the Boston Class Dinner on his way to another meeting. He had been at a T.A.P.P.I. meeting and a M.I.T. luncheon at the Hotel Commodore at New York City just previously held during the Convention of the National Paper Trade Association.

A few quickies that came with the class dues checks: Charlie Williams: "I enclose a small check together with large good wishes. Sorry I missed the 1915 dinner in New York and seeing your good self and everyone else." Ray Stringfield: "Nothing to talk about out here but work. Business is pretty good, but not yet good enough to retire on." Lloyd Chellman: "Trust all goes well with you. Kindest regards." Allen Abrams: "Best wishes to you and thanks for the excellent job you are doing for the Class." Hoot MacKenzie: "Sorry that I do not get into Boston now. Busy as the famous paperhanger but do think of you occasionally. All well and happy. Hope you are the same." Charlie Norton: "It sure is good medicine to spend an evening with that 1915 bunch." Mrs. (Pat) Raymond Walcott writes for Ray: "Wally is in Florida on business and I know he intended to take care of this before he left. I'll leave the 'news' letter for him to write, but at least I can say that we are still going strong after nearly 34 years!"

And now some letters recently received: Ted Spear: "I am still with Oxford Paper Company in Rumford, Me., but my status has changed somewhat. I'm not in active management work, as of January, 1953, but doing public relations work as a vice-president. Whatever public relations is supposed to be, it seems to keep me sufficiently occupied. Our two daughters are married, one living here in Rumford, and the other near Albany, N. Y. Grandchildren, three, ranging from one to nearly six years. The two who are here in town descend on the old folks quite often and have no difficulty whatever in turning the house inside out. I had a beautiful bout with arthritis over a year ago, which took

me to Lahey's and Deaconess Hospital, but they seem to have done a very successful job — thank goodness — and I manage to circulate fairly well. Now I trust the world has been good to you, and that we can see each other before too much water goes over the dam." Herb Anderson: "Greetings and dues! When I left the States early in January, I carefully filed Hank Marion's cable address — but in the wrong place — Philadelphia. At Munich I realized my error, but from the '15 notes was delighted that you received my message at The Chemists Club from Stuttgart. As the parrot said, 'Every day seems a --- of a short day.' Best to you all." Alton Cook: "How about a financial statement of present condition of Class of 1915? Sorry I was unable to attend the dinner in New York in January. As I indicated to Hank Marion, the matter of attending a funeral interfered with my original plans to join the group. Perhaps there will be another New York dinner in the not too distant future. Meanwhile there is no real news on this end, much as I would like to help with the class notes. Best regards to all the Boston crowd. Here's a check for class dues."

Gardiner Wilson: "Read the class news with interest so keep up the good job you are doing. Little to write about, just wearing out the stretch with the Armstrong Cork Company as a manager in their plastic tool design set-up. Nineteen years so far with this outfit and four more to go. Best regards." Jim Tobey, with an enclosure from Esther and Andy Wardle: "After two months' exposure to the pirates of Florida, the enclosed dues check hurt me more than it does you, but the cause is more than worthy. Enclosed is a letter I got from our classmate, Andy Wardle, who has been as silent as a tomb for lo these many years. I asked him to write something you might publish. It's one of these *rara avis*es that ought to be mentioned. And, as to you, Hank Shields, a merry St. Patrick's Day to you, and be sure and pass this along to Azel." The Wardles wrote on their interesting card: "Dear Jim, In compliance with your recent questionnaire, beg to reply as follows: Gruesome details — none. Grandchildren — ditto. Jail — not as yet. Heaven — who knows? Many years have passed, at least 15, since I last saw or heard from Sam Tolman but at that time he was with Jeffrey Manufacturing Company at Columbus, Ohio. Still up to my neck in the transportation problems of the big city. The automotive manufacturers continue to turn out their product faster than the poor taxpayer can finance and build proper facilities to accommodate them. I note in The Review that you at times get to the Class Dinners and that Pete Munn is a loyal and regular participant. In memory of the old days of St. Botolph Street please give P.D. my best when next you see him. Here's wishing health and happiness to the Tobeyes in '54!" Jim signs himself "now on the shelf as a retired Colonel U.S.A." in addition to his interesting articles in many professional publications including the recent one in The Review, Jim found time to lecture on the subject of Public Health Law at the Army Medical Service Graduate School in Washington, D. C., on March 8, Chet Runels of Lowell recently ad-

addressed a meeting of the Nashua, New Hampshire Board of Realtors on the subject, "The Magic in Real Estate and Banking." Chet is a realtor and architectural engineer owning and operating his own realty and management business. Alfred V. Coleman of Quincy was recently promoted to vice-president of the New England Electric System. Bob Warren recently addressed the Merrimack Valley Chapter of the National Association of Cost Accountants at the Andover, Mass., Country Club on the subject, "Investments for Accountants." Bob is director, exploratory research division of the Keystone Custodian Funds, Inc., Boston. Congratulations to these three classmates, Chet Runels, Alfred Coleman, and Bob Warren, on their public achievements.

Bill Holway's wife, writing for Bill, on a pale green letterhead of the Flying H Ranch on Grand Lake in Delaware County, Oklahoma: "This paper perhaps indicates the most mournful aspect of the year just past. In common with all breeding cattle owners this was a disastrous year—drouth and consequent expensive feeding problems plus the drop in the market hit us all hard. I have cut my herd down to about a third and hope that 1954 will be different—hard to part with \$400 heifers for \$150 though. . . ."

"The family is well and growing. Both my sons are in the engineering business with me. That is why I can spend time on the Ranch and get my exercise clearing land and building irrigation systems. Bill, my younger son, has a house-building company, operating in Pryor. Haven't been back to Boston for a good many years. Might come some time."

Always a loyal classmate, Parry Keller writes from the University Club of Akron: "My intent to write to you has been strong, but the will to do it has been very weak. Procrastination may be one of my bad habits. I have two grandchildren now. The little girl is two years old and the baby boy is going on four months old. Both are fine healthy children. I enjoy spending a couple of week ends a month with them and parents in Cleveland. The 1915 classmates in The Review are as always very interesting and you continue to do a fine job as class Secretary. I do not blame you for taking a month off infrequently. Your batting average has been very high over a long period of years. I was sorry that I had to miss Alumni Day and all the related doings last June for business reasons. It looks now as if I will be out of luck again this coming June. The Goodyear Research and Development Interplant Conference is scheduled here in Akron June 14 to 18 inclusive. I am involved in the program and must be in attendance. However, I am planning to take a week of vacation beginning June 20 and will be at my brother's home in Arlington. If all of this works out, you will hear from me as soon as I arrive. My work at Goodyear keeps me busier than ever. Quite a little traveling is involved, but I do not seem to be able to get near Boston and Cambridge. May go to California soon. I feel very well in spite of all this business activity. Be sure and give my very best to Frances. Also say hello for me to any of the fellows you may meet. I am still the involuntary editor of The University Club

News." For years Parry has been editor and publisher of the Club News, four pages legal size of interesting news and items of his Club. The May, 1954, issue was the 72nd consecutive monthly issue of the News. In the March issue, W. H. Baldridge, President of the Club, pays a nice tribute to Parry and his efforts, "We would like to acknowledge the outstanding contribution to our organization of member, Parry Keller, Editor of the Club News. The co-operation of all members will be most appreciated in letting Parry know of items of interest."

Hats off, and a salute to Henry Sheils for the monumental job he has done in collection of Class Dues of \$766 from 115 classmates. This high average of \$6.75 per contributor is due to the many generous 10 and 25 dollar checks. It represents 27 per cent of our class mailing list. Indeed wonderful efforts and success by Henry. If you are in the 73 per cent balance who have not contributed please send your check now and thereby "help Azel" to close the year's column. — AZEL W. MACK, Secretary, 40 St. Paul Street, Brookline 46, Mass.

• 1916 •

Starting off this month we report with regret that because of poor health, Joe Meigs is "finally closing my New York offices and retiring to the country. I shall be in Sharon, Conn., after June 1. Under the circumstances I will not be able to attend the reunion this year; maybe next year I will have recovered my pep." We certainly hope so, Joe, and in the meantime all of us join in sending you our best wishes for your rapid return to good health.

Vannevar Bush has another honor conferred on him. He is, as you know, president of the Carnegie Institution of Washington. At the 91st Annual Meeting of the National Academy of Sciences he was awarded the John J. Carty Medal for noteworthy and distinguished accomplishment. The Carty Fund committee stated: "Very few men in the history of our country have exerted so profound and so diversified an influence on science and its ramifications in our society. . . ." Congratulations again, Vannevar.

Here is an interesting press release regarding our Assistant Secretary: "1954 A.S.T.M. Lecturer Announced—Harold F. Dodge To Deliver Edgar Marburg Lecture—Harold F. Dodge, Quality Results Engineer and Member of the Technical Staff, Bell Telephone Laboratories, Inc., will present the 28th Edgar Marburg Lecture on the Subject Interpretation of Engineering Data. This lecture given at the annual meetings of the American Society for Testing Materials, originated as a memorial to the first secretary of the Society and was established to emphasize the importance of furthering knowledge of properties and tests of engineering materials. Mr. Dodge will discuss the role played by sampling and quality control techniques. He will give particular attention to the application of some of the simpler statistical methods used in the interpretation of data obtained in development, production and inspection activities. In industry the development and production of materials and manufactured products involves at

every turn the collection, analysis, and interpretation of quantitative data. Most engineering data can advantageously be regarded as a sample to tell something about a larger whole or about the behavior of the cause system or process that gave rise to the data. Mr. Dodge, long recognized as a pioneer and leader in the field of statistics and quality control, is chairman of the A.S.T.M. Committee E-11 on Quality Control of Materials. For outstanding service rendered to the American Society for Testing Materials, he was presented the A.S.T.M. Award of Merit in 1950. He was selected as the Shewhart Medalist in 1949 by the American Society for Quality Control. He holds degrees from M.I.T. and Columbia. During World War II, Mr. Dodge served as consultant to the Office of Chief of Ordnance. He is the author or co-author of many scientific papers dealing with statistical methods and inspection data as applied to quality control." Harold delivered this lecture on Wednesday afternoon, June 16, at the Hotel Sherman in Chicago. We're very pleased for you, Harold.

Another of our classmates was highlighted in this interesting article: "Spencer D. Hopkins, Director of the sales section of General Motors Corporation and producer of the GM Motorama of 1954 which opened in Los Angeles March 6, was born in Onancock, Va., May 5, 1892. He completed high school there and attended St. John's College in Annapolis, Md., where he received his A.B. degree in 1912. He then studied mechanical engineering at the Massachusetts Institute of Technology, graduating in 1916 with a B.S. degree, and that same year he received his A.M. degree from St. John's College. Although an engineer by training and nature, Hopkins possesses a flair for showmanship that is rare among men in his profession. Anyone connected with show business will tell you that an engineer would be miscast as producer of a spectacle like the Motorama. If this be true, the 'miscasting' of Hopkins in his present role was a stroke of genius, for in the 1954 Motorama, the GM sales section director has a hit on his hands by any standards. Upon completion of his engineering training he obtained a position in the test department of General Electric Company in Erie, Pa., advancing within the year to the position of foreman. In June, 1917, the United States Navy Bureau of Engineering took him to Pittsburgh as an engineering inspector. Following World War I, Hopkins was employed by the Polak Steel Company as production engineer in the Cincinnati plant. In 1923 he was placed in charge of sales for two of the company's plants, which position he held for three years. For six months he was district sales manager for Liebel Flarsheim in Baltimore, Md., leaving the concern in March, 1927, to join the Hertz-Drive-Yourself Stations of Yellow Truck and Coach Company in Philadelphia, Chicago and Pontiac. From Yellow Truck and Coach Company, which was a subsidiary of General Motors Corp., Hopkins transferred to the sales, service and advertising section of General Motors in 1928. In 1932 he was made office manager for the B.O.P. Sales Co., which merchandised Buick, Oldsmobile and Pontiac cars for General Motors. Later the same

year he was appointed to the staff of R. H. Grant, Vice-president of General Motors in charge of sales. In November, 1933, he was assigned to the position of director of the dealer and budget section of General Motors, which position he held until his appointment as assistant director of the sales section Jan. 1, 1936. At that time the dealer and budget section was merged with the sales section. He was appointed to his present position in October, 1941.

Here's an interesting item about one of the lady members of our Class: "Washington's fourth annual National Capital Flower and Garden Show continues to draw record crowds, as it goes into its last two days in the National Guard Armory. . . . Among the model gardens in the garden club section of the show, the front walk garden of the Chevy Chase Garden Club has attracted wide attention. This display, which shows how a small, front entrance can be treated, has been called a 'gardener's garden' by garden designers. Its use of plant material has received particular comment. This garden was designed by Mrs. Parker Dodge (nee Charlotte Lewis Phelps), an architectural graduate of the Massachusetts Institute of Technology. Most of the plant material was grown and forced into bloom by club members. On one wall of the garden, for example, Irish yew has been used that was espaliered in a member's yard. The garden has for an accent beds of spring flowering plants, and a pink star magnolia. Its beds are edged with *Boxus microphylla* Koreana, a dwarf boxwood that is native to Korea and was developed in this country by an eastern nursery." This certainly is a very pleasant change-of-pace from the hustle bustle of the day-to-day business world.

We were very pleased to hear from Jack Camp recently and to learn that he is doing very well. He sent us a copy of his wonderful professional record and we were tremendously pleased to read of his accomplishments since 1916. This paragraph of his letter is of general interest: "In the introductory pages of this record you will note that, in order to offer my clients the services of outstanding specialists in various fields, I have formed associations with several consulting firms in the United States. In addition to those listed on page iii, I am also in contact with an outstanding firm of consultants in the field of industrial management, since I find that many Mexican enterprises are beginning to feel the need of modernizing and improving their management practices." The firms listed on page iii, referred to above, are: Albert Kahn, Associated Architects and Engineers, Inc., Detroit, Michigan; Fay, Spofford and Thorndike, Boston 8, Mass.; Camp, Dresser and McKee, Boston, Mass.; Behre Dolbear and Company, New York, N. Y.; Record Controls, Inc., Chicago, Ill." Jack also writes that he will be up to see all of us at the reunion in 1956.

The only other item of interest that we have to report this issue is a very pleasant visit that your Secretary had with Aime Cousineau, who is the director of the City Planning Department in the City of Montreal, Canada, in his office not so long ago. Aime is very well and seems to be very happy in his very important and interest-

ing work in Montreal. Aime enjoys a good game of golf and your Secretary has hopes that Aime will be among the golfers at one of our reunions in the near future.

This winds it up for another season. May we say that it has been our great pleasure to perform this task on behalf of the members of a very fine group and that we will be looking forward to starting in again on the class notes in the Fall. Best wishes to all for a pleasant summer, and may you continue to enjoy good health and success. Your letters are always welcome; in fact the more we get the happier we are. It would be a very pleasant surprise indeed to find our mail bag filled to overflowing when we open it again in the fall. —RALPH A. FLETCHER, *Secretary*, P. O. Box 71, West Chelmsford, Mass., HAROLD F. DODGE, *Assistant Secretary*, Bell Telephone Labs., Inc., 463 West Street, New York, N. Y.

• 1917 •

Neal Tourtellotte's efforts to bring us news of '17ers on the West Coast has been very fruitful, as will be noted in the following installment:

Joyce R. Kelly has been employed since 1948 by General Electric Company at Hanford Works, Richland, Wash., in connection with a large expansion program in plutonium plants and other facilities. He has served in various engineering administrative capacities and currently has a staff of 126 people. He has supervised projects including plutonium plants, water treatment facilities, railroads, process laboratories, roads and highways, airport construction, and housing. Joyce wrote Neal recently as follows:

"Some three years ago I received a very pleasant request from our Secretary, Raymond Stevens, to contribute to the class notes appearing in *The Review*. That fine combination of an inclination to write and the inspiration to do so have seemed forever lacking. Ever since though I have often thought of Ray Stevens' request and how much I enjoy the accounts of the doing of classmates. At one time I had thought to write of the unusual meteorological phenomena which may be observed here, of the 1948 flood which broke all records since 1894 during which the Columbia carried over 700,000 second feet past our little village (normal low water flow is approximately 50,000 second feet). I had thought to mention some of the northern lights displays which I have seen, the gorgeous sunrises and sunsets, the double rainbows, the moon halos and the occasional high winds which would remove an old man's whiskers, if he had any.

"The Washington shore of the Columbia is a game preserve from high water mark for one-half mile inland and your eastern bird hunters would never believe the number of ducks and Canadian geese that I have seen within a pistol shot of my own front door. Some four weeks ago before the migration southward was well under way I estimated more than 500 Canadian geese and more than twice that number of ducks resting on the waters of what is now McNary Lake or Umatilla Lake or Wallula Lake, depending upon who wins the toss.

"My work here has been interesting and at times even stimulating. I came up here

from Portland with the idea that the job might last a year or two and now am entering my seventh year. I still retain the roomy old house in Portland where the Oregon group, together with Lobdell met under the chestnut trees and almost froze to death on July 27 some 6 or 7 years ago. We have complete picnicking facilities except that we cannot guarantee the Oregon weather."

Bill Eaton says, "I am still president of the Forest Lawn Life Insurance Company in Glendale. The company celebrated its 10th anniversary last November, so I guess my job is 'permanent' until I retire, which should be about five years hence. My residence has changed to 4811 Vineta Avenue, La Canada, Calif. My health is very good and I am still married to the same woman I married the year I graduated from Tech—quite a record for a couple living only a few miles from Hollywood."

Frank Norman Crane, is an assistant division engineer for the City of Los Angeles. Frank lists as hobbies the study of genealogy, automobile trips, and a collection of weather charts since 1919.

Colonel Claudius H. M. Roberts, since March, 1952, has been stationed with H.Q. Far East Command (later U. S. Army Forces Far East) as special technical assistant to Theatre Ordnance Officer. His principal duties include advising F.E.C. and Eighth Army on technical effectiveness and tactical utilization of weapons and ammunition, monitoring combat tests of new Ordnance Materiel, research and development liaison with Office of Chief of Ordnance, staff supervision of Ordnance Technical Intelligence activities in Korea and Japan. Colonel Roberts says his hobbies: photography (especially movies), rifle and pistol shooting, Model RRs, stamp collecting, have all been "more or less dormant since 1941, except photography, of which I've done a lot during World War II and in Korea." His daughter, Patricia, graduated from Smith College in 1951, and is now in Japan with him teaching in U. S. Forces Nursery School, at Yokohama. Son, Samuel A., a senior at Stanford is due to go into the Army in July; and younger son, Thomas S., is a freshman at M.I.T. Due to retire on September 30, 1954, he says "then will begin to catch up on what's happened in the world during the last 12 to 15 years."

Walter B. Strong moved to California in 1949. He is co-manager of Witherspoon and Company, Inc. (investment securities) in Santa Barbara. "Territory—wherever there is a customer. This business has no territory—an order for \$1,000,000 from New York is just as good as an order from California. In fact, better, if it gives me a free trip East early enough for trout fishing in Vermont, where we still maintain a farm,—out here they call 'em ranches, but that is much too high-brow for us."

Carl A. Fuess of Dallas, Texas, can boast of 14 grandchildren, eight girls and six boys. Doug McLellan is an architect in Los Angeles and says the two things he enjoys most are golf and eating. Brian Curtis of Helena, Calif., retired in 1948 from California State Division of Fish and Game. Since then he has done "desultory ranching" in Napa Valley (grapes and beef cattle), and serves as fishery consultant to Pacific Gas and Electric Company in con-

nection with new hydro-electric plants and amounts of water to be allocated to fish preservation.

Neal, in his quest for news, also heard a voice from the East — Ham Wood, who writes: "Have been in insurance business since August, 1919, after interesting trip through France at Uncle Sam's expense. Lived in Columbus, Ohio, 1923 to 1926 and in Brookline and Wellesley since then.

Billie Haines is off for Iceland to participate as an official (U. S.) observer at the opening of the ammonium nitrate plant. Neal received the following letter dated April 25 with news of the death of Hyogo Mori in Japan:

"Dear Professor Neal E. Tourtellotte: I regret to inform you that, after a long illness, my husband Hyogo, emeritus professor, at length died on 17th at half past six o'clock, all arts being unavailing. The funeral was conducted by the names of Electrical Communication and Electrical Engineering of the Kyushyu University in the Kumiai Church, Kego Fukuoka City, on Wednesday, the 21st instant at 4 o'clock. Your unhappy friend, Mrs. Kimie Mori."

Arthur E. Keating, founder and president of the Bridgeport Engineering Institute, has been named head of the Department of Industrial Engineering at Northeastern University, Boston.

Bruce Davis is moving to Pembroke, New Hampshire. He says he is "now working in Concord, N. H. with Anderson-Nichols & Co., architects and engineers. Have purchased old Colonial (200-yr) home and expect to have a peaceful and happy time in New Hampshire."

Dean Parker, who is with the B. F. Goodrich Chemical Company in Detroit says, "I am technical service manager for the pigment division of this outfit now, having been in technical sales for ten years. It looks now as if I am going to have to move back to the New York area again as our plant is located outside of Paterson, New Jersey." Dean has four children, two boys and two girls, and seven grandchildren, six girls and one boy.

Harold E. Lobdell y Conchita Zambrano de Lobdell participan haber efectuado su enlace religioso en la Parraquoa del Santo Niño en la Ciudad de Nuevo Laredo, Tamps., el día 29 de Marzo proximo pasado. — RAYMOND STEVENS, *Secretary*, 30 Memorial Drive, Cambridge, Mass., NEAL E. TOURTELLOTTE, *Special Correspondent*, 404 White Building, Seattle, Wash.

• 1918 •

With murmurs of pleasure and expressions of delight June brides trip down the aisle on the arms of proud fathers. But not everybody waits till June, just as not every wedding gets reported to your eager correspondent until long after the confetti has been swept up and the bride has become accustomed to a new last name. For example, Don MacArdle's daughter Margery, was married last February to W. Raymond Baur in New Rochelle, N. Y. Of even more magnificent distance in point of time is the marriage of Jack Kennard's daughter last fall to Earl J. McHugh in Summit, N. J. In the spring a Class Secretary's fancy lightly turns to what the

daughters of his classmates have been thinking about all the time.

Carl Blanchard, as president of Wyatt Inc. of New Haven, has got himself into the news because of forward-looking effort in a growing operation. In 1946, Wyatt, Inc. formed the Wyatt Terminal Corporation to handle petroleum distillates, namely, kerosene, No. 2 house heating oil, diesel oil, and No. 4. An adjacent piece of land was purchased from the City of New Haven for this terminal, and tanks were erected. This product is received by tankers from the Gulf Coast ports and Venezuela. It is distributed by tank car, tank truck and barges. Trucks are loaded through a very modern, completely electrified, terminal operating tower, where thirteen 5,000 gallon trucks can be loaded every 10 minutes. The property was extended in 1949 by dredging the Wyatt channel and filling in one of the slips with 250,000 yards of sand. The entire storage capacity of the terminal is now approximately 34,000,000 gallons, or eight 100,000 barrel tankers. The company has about 75 employees. The personnel have been carefully selected and the company officials believe that they are outstanding in the line of work that they are doing.

As Cal Coolidge said, "If the spirit of liberty should vanish in other parts of the Union, and if support of our institutions should languish, it could all be replenished from the generous store held by the people of the little state of Vermont." Hence our joy in the following from our own East Dorset, Vermonter, Ken Reid: "As you probably know, I took to the country about eight years ago and became a native Vermonter by adoption. I've lived here ever since except for an interlude of city employment from October, 1951, to June, 1953, during which I was engaged in the photo-engraving industry as a liaison man between the advertising art directors and the engraving shop. This was, to me, a new and interesting segment of the publishing field, with which I have been connected since 1926. Even while I was working during these 20 months in New York, I spent my weekends up here, so I consider that Vermont was my true residence at that time also.

"My work up here has been mainly writing and editorial consultation. Right now I am engaged on a biography of an eminent architect, one of the leaders of the profession. I hope that the book will get published next year and am doing my utmost to make it stimulating and entertaining as well as instructive. I'm also editing and revising a book by another architect, this one on the general philosophy of architecture as he sees and practices it. So by these two undertakings the wheels of my mind are kept lubricated and turning and my family is kept reasonably well fed. My son and daughter are grown up now: the girl is married to a Vermont dairy farmer and has thus far produced two male offspring. Now she's trying for a female, but will settle for whatever comes. She has taken to the country life with gusto and is as happy as can be. My boy has not yet settled upon a career. He spent a year in the army in Korea and thereafter attended two colleges for a total of five and a half years but did not get his degree and finally decided that he would try work-

ing for a living. He's over in New Hampshire breaking into the construction industry but so far has only a toehold on the bottom rung of the ladder. I hold no patents and have committed no public service other than to join Rotary." — F. ALEXANDER MAGOUN, *Secretary*, Jaffrey, N. H.

• 1919 •

Ed Flynn, Ed Seifert and Don Kitchin were on the 1954 ticket for the Alumni Association. Ed Flynn is superintendent of the Palmerton Plant of the New Jersey Zinc Company (of Pa.), Palmerton, Pa.; past president, M.I.T. Club of Lehigh Valley; has been active in the Development Fund Drive and its honorary secretary since 1947; and regional chairman, Educational Council. Ed Seifert is owner of American Chemical Service, Hammond, Ind.; is active in the M.I.T. Club of Chicago; and is a member of the Educational Council. Don's work is in the Research Laboratory of Simplex Wire and Cable Company at Cambridge. He is a member of the Alumni Council; was on the Visiting Committees for the Department of Modern Languages, 1934-36, and for M.I.T. Libraries, 1940-45; chairman, Alumni Banquet, 1953 and 1954; member Greater Boston Committee, and captain for Class of 1919, Development Fund Drive; chairman, 1953 Conference on Electrical Insulation, National Research Council; director, Northeastern Section, American Chemical Society; Subcommittees on Basic Sciences, American Institute of Electrical Engineers. Seems to be a busy life for these boys.

While we were celebrating our Reunion, Louise Peirce Horwood was in Paris preparatory to flying back to Boston from Rangoon, Burma, where she and her husband had been since August, 1952. He has been in charge of the M.I.T. Educational Project to the Engineering College of the University of Rangoon. She says that it was a fascinatingly interesting experience — nothing can replace first hand acquaintance with the Orient. In Rangoon she was president of the American Women's Group, 1953-1954; assisted at a maternal and child welfare clinic operated by the National Council of Women of Burma; and co-operated in various other Burmese activities. Her husband, Murray P. Horwood '16, Course VII, is a member of the Staff at M.I.T. They were looking forward to returning to the land of milk and honey.

Francis Weiskittel and his wife were unable to attend the Reunion because the school terms of two of their children were not finished and they couldn't think of a nice trip to New England without taking the children, ages five, seven and eight, for the ride. In August, Francis will have been married ten years. His hobby is raising pure bred sheep (has a small flock of Hampshires) and he wonders whether any other 1919 men follow this same hobby.

On March 31, Stanley Scott retired from the regular Army, after 42 years' service, with the rank of major general. He was honored for his long service at a retirement ceremony which included a 13-gun salute. His last assignment was commander of the Fort Belvoir (Va.) Engineer Center. Stan has also been active in the Rotary Club and other civic organizations

in Alexandria, Va. One of the greatest accomplishments of his career was in 1941 when he was division engineer in Dallas, Texas, charged with carrying out a tremendous building program to house an increased Army and Air Corps. For his achievement he was awarded the Distinguished Service Medal. In 1942 he was chief of staff of the Persian Gulf Command, where he added an Oak Leaf Cluster to his Distinguished Service Medal. His last assignment outside the U. S. was as commander of Army Forces in Alaska in 1948. Later he was director of the Office of Military Assistance in the Pentagon. Stan had three children, one of whom, Major Stanley C. Scott, was killed in action in France during World War II. Lieutenant Gilbert T. Scott, another son, is now serving in Korea, while William B. Scott lives in Dallas. Congratulations to Stan on his long and useful career.

General Motors' giant Motorama show in Los Angeles at the Pan-Pacific Auditorium in March gave tribute to the various men who made this show possible, and one of these was Charles A. Chayne, Vice-president in charge of engineering. Congratulations to Edith Clarke, Professor of Electrical Engineering at the University of Texas, who on March 6, 1954, was presented with the annual award of the Society of Women Engineers for "significant contribution to engineering." Will Langille had to have a slight operation during May which we hope was successful and that he gets back on his feet rapidly. Jim Strobbridge is still President of Strobbridge Lithographing Company. Too bad the Lithographers Convention at White Sulphur Springs came the same time as our Reunion. Jim sure did hate to miss that Reunion. Says he also had to miss his St. George's School Reunion the following week for a director's meeting in Cincinnati.

Kim Stuart retired as vice-president of the Neenah Paper Company in Neenah, Wis., because of a bad heart condition. We are glad to know that he has since recovered his health. He and Mrs. Stuart now live near Gardnerville, Nev., and are remodeling an old house in Genoa, Nev., the first white settlement in the State. All his family — three daughters — are married, and he is the proud grandfather of three boys and a girl.

Glad to have word from Howard Searles: "Not much exciting to report in a school teacher's life. Didn't realize how much Professor Brown had taught me that has served well in teaching art. However, teaching does give one a chance to travel — conventions, three trips to Europe, twice as delegate to conferences in Holland and England, a couple of times to the West Coast, around the Gaspé and three Florida vacations. Summers now as arts and crafts counsellor at Rowe Camp in the Berkshires. Earned alumni dues by doing chart for Bouve, Boston Drive. Best wishes for the Reunion."

Dean Webster is president of the H. K. Webster Company, feed manufacturers, with headquarters at Lawrence, Mass., and manufacturing plant in Richford, Vt. He was nominated for chairman of the Board of Directors of the American Feed Manufacturers Association, headquarters Chicago, election to take place May 5, but

as these notes go in we haven't heard the outcome. His hobby is golf, at which he claims to be "far from an expert." His family "consists of wife Mina, son Dean K. Webster III, 24 years, also associated with the H. K. Webster Company, graduate of Williams College and U. S. Marines. Daughter Joan, was married April 10, 1954, to Alexander C. Post, of Akron, Ohio, now with the U. S. Army."

New addresses: Mrs. C. L. Higgins, 529 Highland Avenue, Newark, N. J.; Francis Coleman, My Bread Baking Company, 229 Coffin Avenue, New Bedford, Mass.; Brian O'Brien, American Optical Company, Southbridge, Mass.; and Mrs. Walter O. Wood, 15 South Avenue, Tiverton, R. I. — EUGENE R. SMOLEY, *Secretary*, The Lummus Company 385 Madison Avenue, New York City.

• 1920 •

Classmates who read these notes, if any there be, will recall a fair amount of news in a recent issue about Doug Higgins, based on a letter recently received from Doug. It was a great shock, therefore, to learn of his death on March 19. He had apparently settled down there in Louisville to a less strenuous existence and an honorable retirement from his important duties in the army logistics service only to be overtaken by death. He was a distinguished and well-loved member of the Class and his loss will be keenly felt.

Mention has been made in these notes several times of the fine work Bunt Murphy was doing as director of the Berkshire Industrial Farm, Caanan, N. Y. I have word that Bunt has resigned from this position as of July 1. During his seven years there he greatly increased the size and usefulness of this rehabilitation enterprise for the treatment of delinquent boys. Under his leadership the first international meeting on the institutional care of juvenile delinquents was held at the Farm in 1951. He leaves a record of great accomplishment.

Arthur Dopmeyer has left Alexandria, Va., and is with the American Embassy at Amman, Jordan. Art Grosscup's present address is 27 Pine Grove Avenue, Summit, N. J. Dr. Paul Phillips has moved from Elizabeth, N. J. to Philadelphia — address, 1356 Arbordale Road.

Those of you who were at the Thirtieth Reunion will recall that Ed Farrow was chosen as chairman of the Reunion Committee for the thirty-fifth. Ed is already lining things up for next year and under his able direction we are bound to have the best Reunion yet. Do co-operate with him to the fullest extent. You won't regret it. Let me remind you again that it will be at Pine Orchard, Connecticut, over the weekend of June 11 and 12, 1955. If you have any questions about it, you can get in touch with Ed at Eastman Kodak Company, 343 State Street, Rochester 4, N. Y., or with me. — HAROLD BUGBEE, *Secretary*, 7 Dartmouth Street, Winchester, Mass.

• 1921 •

With this issue of the current volume of *The Review*, the recording of class items ends until the next volume gets under way with the appearance of the November issue. Alumni Day and other summer activities will have come and gone but their

publication must be delayed until the fall because these notes have to be completed in May to meet the closing date for copy for this issue. At this moment, we are looking forward to a good time for all at the annual 1921 gathering in June. When you read these notes, we hope you will look back upon the party as the highlight of the year for you and your family. The next of this annual series will be held in 1955, to be followed by our 35th reunion in 1956. Reservations for that important event have already been made at the Sheldon House, Pine Orchard, Conn., for June 8 through 10, 1956, after which we will proceed to Cambridge for Alumni Day on June 11 of that year.

Daniel P. Barnard sends a welcome letter which says, in part: "I have noted the reference to my relocation in Washington, which appears in the 1921 Class Notes in the May issue of the *Technology Review*. Perish the thought that there should be the slightest suggestion that my life is anything but an open book! I am here in Washington on a tour of duty in the capacity of deputy to Donald A. Quarles, Assistant Secretary of Defense for Research and Development. Among its duties, there is included the job of co-ordinating the many research programs in the Department of Defense. My very best wishes to everyone in 1921." A recent release about Dan's appointment gives these further details: "Dr. Daniel P. Barnard of Chicago, Research Co-ordinator of the Standard Oil Company of Indiana, was sworn in as deputy assistant secretary of Defense for Research and Development on February 1. He is past president of the Society of Automotive Engineers, a member of the American Chemical Society, American Society of Mechanical Engineers and the Wings Club and an associate fellow of the Institute of Aeronautical Sciences." Dan and Mrs. Barnard have a daughter, Mrs. Fred S. Wood of Valparaiso, Ind., and a son, Daniel P. Barnard, 5th, of Cleveland.

In the same mail, there arrived another welcome note from William B. Plummer, President of Indoil Chemical Company, 910 South Michigan Avenue, Chicago 80, Ill., who is an associate of Dan's on the executive and technical staffs of the Standard Oil Company of Indiana and its subsidiaries. We are glad to hear from Llewellyn B. Griffith, a consulting engineer of 22 South Edison Street, Arlington 4, Va., who maintains his own research laboratory. Robert F. Miller, the loyal director and producer of the official photographic record of the Class of 1921, writes from his home in Falls Church, Va.: "Here are the reunion films which I have edited and reduced to one continuous film depicting both the 1941 and 1946 reunions at New London and Osterville, respectively. Also included are the colored slides I took last year showing views of the luncheon, the presentation of the Class Gift Memorial of World War II and pictures taken at the alumni banquet at the Statler.

"A bit of news for you: After four years with the Signal Corps, I have transferred to another Washington agency, namely the Postoffice Department Headquarters. This change, which was effective on May 3, represents a shift to an entirely civilian

operation with a broad improvement program under way. Bobby graduates this coming June from Gonzaga High School and this may prevent my participation in this year's Alumni Day meeting."

George A. Chutter deserves sincere thanks for his continued help and courtesy in not only phoning news but also confirming it in writing to reduce our note-taking and transcribing. Says George: "You and I were to meet at the University of Pennsylvania for our sons' graduation in June. I hope you are really going to fare better than I do in this respect. Bud is graduating, so far as it is possible to predict such things. On the other hand, he has to take examinations in both Connecticut and New Jersey, where the national examinations (for dentists) are not accepted. This particularly vigorous program happens to overlap the graduation exercises in such a way that he is going to have to skip his graduation. I am not sure whether this is a greater disappointment for him, his mother or his father, but it probably will interfere with our planned meeting in Philadelphia. I had most interesting visits with Harriet and Paul Rutherford on recent trips to Rochester. I also spent an evening with Rosalie and Ted Rose, Madeline and Ralph Shaw at the latter's home in Beverly, N. J. I must say that the activities and achievements of our classmates still amaze me. With somewhat better prospects, I hope to be in Boston for Alumni Day."

Memorializing the late S. Murray Jones, Dugald C. Jackson, Jr., writes, in part: "I formed a warm regard for Murray during our junior and senior years, which was intensified in our graduate years and which has thrived throughout more than 30 years as Alumni. There were four of us in our graduate year doing the research for our theses on the then new distributed constant artificial transmission line with an equivalent length of 1,000 miles. Designed by the late Frederick S. Dellenbaugh and made by General Radio, it was tested, installed and studied by Murray, who was a research assistant as well as a graduate student, John A. Scott, Bartow Van Ness, Jr., '22 and Dugald C. Jackson, Jr. I saw Bart at a recent meeting of the Maryland Section of the American Institute of Electrical Engineers and we both mourned the passing of a member of the quartet." George O. Hartman of the Shipbuilding Division of Bethlehem Steel Company, says he has a new home address at 30 Daniel Low Terrace, Staten Island, N. Y. We can't resist making the observation that George and other Alumni residents of Staten Island may have a complaint for the Alumni Association along the lines of "Taxation without representation . . ."

The by-laws of that venerable organization ignore the existence of the good Borough of Richmond, excluding its residents from representation either as a part of New York City or as a foreign country, as the old vaudeville gag had it. Oh, the irony of refusing the franchise to all Staten Islanders while specifically extending it to the distant Philippines, Yukon, Labrador and such like!

Stanley L. Scott, a major general and commanding general of the Army Engineer Center, Fort Belvoir, Va., has retired after 40 years of Army service. A native of

New Albany, Ind., he was graduated from West Point and received his degree in Course I with us in 1921. He served overseas in World War I, as district engineer in Hawaii and during the last war, when he was chief of staff of the Persian Gulf Command. A former instructor at the Military Academy, assistant engineer of the Louisville District and builder of one of the Ohio River dams, he had recently been Director of the Office of Military Assistance, office of the Secretary of Defense. He holds the Commendation Ribbon and the Distinguished Service Medal with three oak leaf clusters. General and Mrs. Scott have two sons, William B. Scott '44 and Lieutenant Gilbert T. Scott, now serving in Korea. A third son, Major Stanley C. Scott, was killed in action in World War II.

Glenn H. Easton, Vice-president of J. J. Henry Company, Inc., naval architects and engineers of New York and Philadelphia, has been appointed Director of the U. S. Operations Mission in Libya, where he will have charge of a technical co-operation program in the fields of health, education and agriculture. An Annapolis graduate who received his master's degree with us in Course XIII-A, he has been a commander in the Navy. Dr. Joseph L. Gillson, geologist for E. I. du Pont de Nemours and Company, reports his address as 6017 Du Pont Building, Wilmington, Del. Alexander D. Harvey says his home address is 133 East 64th Street, New York 21, N. Y. Churchill K. Stiff, life member of the Alumni Association and former resident of San Francisco, has moved to Norton, Mass., where his home is on Newland Street. New addresses have also been received for Mrs. Alice Bronfenbrenner, Joseph G. Kaufman, Lewis W. Moss and Harry M. Ramsay.

Emmett J. Scott, Jr., civil engineer with the New York City Board of Water Supply since 1940, has been named field and office engineer of the U. S. Foreign Operations Administration Mission in Amman, Trans-Jordan. A native of Houston, Texas, he received his degree with us in Course I and did graduate work at the New York University School of Business Administration. Following association with the Boston Elevated and the New York State Transit Commission, he has been engaged in engineering services for the City of New York for the past thirty years, including the Board of Transportation, the Department of Plant and Structures and the Triborough Bridge Authority.

It is with deepest sorrow that we record the passing of Victor Clarence Hassold in Rome, Italy, on April 28, 1954, while he and Mrs. Hassold were on a combined business and pleasure trip. On behalf of the entire Class, we extend sincerest sympathy to his family. Born in Philadelphia on February 27, 1900, he prepared for Technology at the Germantown High School. At the Institute, he was a member of Phi Sigma Kappa, the Student Naval Training Corps, the Mechanical Engineering Society, the Banjo Club and the winning Field Day tug o' war team in our sophomore year. Following graduation in Course II, he became associated with the Steel Heddle Manufacturing Company of Philadelphia in 1921 and rose to become president of the company in 1952, follow-

ing numerous promotions within the organization to superintendent, a member of the board of directors and vice-president. Early this year, he was elected president of the Steel Heddle Company of Canada Limited. He was also a director and member of the board of managers of the Fernwood Vault and Cemetery Company. Vic and Mrs. Hassold had sailed on the *America* on April 2 for business appointments in England, Germany and Switzerland, intending to spend 10 weeks in Europe. His death occurred suddenly during a sightseeing trip in Italy. A most successful executive, Vic was extremely modest and rather reticent about his outstanding accomplishments in his field of major interest, improving the manufacture of textile equipment, as all of us who have visited him well know. For diversion, he became an expert at fine cabinet work as well as a photographer of such calibre that he frequently lent pictures for exhibition for charitable purposes. Vic is survived by his wife, the former Margaret W. Wilkinson, and the triplets, Robert W. Hassold, a graduate of Hampden-Sydney College and member of the Steel Heddle Company; Richard C. Hassold, a graduate of Roanoke College and also with Steel Heddle; Margaret J. Hassold, a graduate of the Child Education Foundation and currently teaching at Germantown Academy; and a grandson, Robert W. Hassold, Jr. Another son, Victor C. Hassold, is deceased. We are greatly indebted to Mrs. Hassold, Gus Munning '22 and A. C. Hellwig, Secretary of the Steel Heddle Manufacturing Company, for aid in preparing these notes.

A very pleasant summer to you and yours. — CAROLE A. CLARKE, *Secretary*, Federal Telephone and Radio Company, 100 Kingsland Road, Clifton, N. J.

• 1922 •

A card from Ray C. Burrus says that he has established an office with Associated Consultants, Inc. in the Barr Building, 910-17th Street, N. W., Washington, D. C. Perhaps Ray will send us additional news on what he consults about. Ab Johnson recently spent three months in the Mediterranean on the carrier, U. S. S. *Randolph*, on maneuvers with the 6th Fleet. The ship was in port often enough to give Ab adequate opportunity to do a good deal of sight seeing, including some side excursions with Freddie Dillion in Naples. At this writing Ab is engaged in some sort of international business conference in London — more details on this later — and Fred is safely back home. Keble B. Perine is one of 36 technicians from 21 states who were assigned during March to overseas posts with the U. S. Operations Missions as part of the expanded technical co-operation program of the Foreign Operations Administration. Perine goes to Pakistan as public health sanitation advisor where he will join the ranks of more than 1,600 American specialists already serving in the U. S. Operations Missions. He is on leave of absence as Health Officer for Belmont, Mass. Allan H. Kidder took an active part in the annual meeting of the National Society of Professional Engineers held early in June at Milwaukee. Kidder is chairman of the N. S. P. E. Constitution and Bylaws Committee and is a Fellow in

the American Institute of Electrical Engineers. Our Class President Ray Rundlett has followed the suggestion offered in his letter to the Class to write to your Secretary. Ray reports that he continues with his interesting work as New York manager of the advertising sales staff of *Ladies' Home Journal*. He has a new business address, 380 Madison Avenue, New York. At home in Bronxville, Ray is active in church and civic activities. He plays golf at St. Andrew's Golf Club and reports that on occasion, he, his son Donald, Larry Davis and Larry's son Bill have played golf together. He also sees Larry on other occasions along with Frank Kurtz, Dale Spoor and Harry Rockefeller. A note from Bill Cooper reports that he is living at 10 Groesbeck Place, Delmar, N. Y., and is still working in the Bridge Office, Department of Public Works, Albany. His daughter Peggy graduated from Middlebury College this past spring. As he has plenty of room in his house at Delmar, he would like to see any of the classmates at any time who may travel in his direction. George T. Boli lives at 589 Montcalm Place, St. Paul, Minn. He is president of the Northern Malleable Iron Company in St. Paul and also is this year's president of the Malleable Founder's Society which is the National Trade Association for the Malleable Castings Industry. Golf is his main recreation. Whit Ferguson has an active part to play in the Civil Defense Operations in Buffalo. Your Secretary continues to struggle with patent law and has moved to Rice Island, Cohasset, where he can see a small piece of the Atlantic. Older son, C. Y. C. Jr., now stationed at Jacksonville, continues to fly jets for the Navy with his discharge coming up this September. Second son, John M., first Lieutenant Marine Corps, is currently in California doing operational flying of helicopters with a 14 months tour of duty in Japan and Korea coming up shortly. Bob Brown's boy who graduated recently from the Institute finished his last term with straight A's and a mark of 5.0. How do you like that? New addresses: Lieutenant Colonel Walter H. Sitz, 3602 East-West Highway, Chevy Chase 15, Md.; William W. Bainbridge, 434 Fowler Avenue, Pelham Manor, N. Y.; Minot R. Edwards, Ordnance Procurement Center, American Embassy, APO 794, U. S. A., NYC., NY; Rear Admiral Lloyd Harrison, Department of the Navy, Bureau of Aeronautics, Washington 25, D. C.; Donald I. Gross, 2735 No. Murray Avenue, Milwaukee 11, Wis. — C. YARDLEY CHITTICK, *Secretary*, 41 Tremont Street, Boston, Mass. WHITWORTH FERGUSON, *Assistant Secretary*, 333 Ellicott Street, Buffalo 3, N. Y.

• 1923 •

The members of the Class seem to be doing all right by the Institute. Candidates for the coming year include Hugh S. Ferguson, XV, as president of the Alumni Association, William S. Brackett, X, for the Nominating Committee and Horatio L. Bond, XV, as term member of the Corporation.

Richard L. Bowditch, XV, stepped down as president of the Chamber of Commerce of the United States. He did an excellent job during the year and particularly at the annual meeting held in

Washington in April. Among other honors, he escorted President Eisenhower to the platform, introduced Secretary of Defense, Charles E. Wilson, presided at many business and social functions and concluded by presiding at the annual banquet. Congratulations, Dick, for a job well done — we hope you can stay home this coming year!

As reported in this column last month, Alan Brantingham, XV, died March 25 of a heart attack while on an airplane between Boston and Chicago. For several years following his graduation, he was associated with the Emerson-Brantingham Company, then he founded the Ebaloy Foundries company in Rockford, Ill. He then served with the General Mills Corporation at Minneapolis and Bloomington, Ill., finally moving to Newburyport, Mass., as a manufacturers' agent. He is survived by his widow and three sons. Our sympathy goes out to them. Franklin J. Griffin, VI, passed away in Brookline, Mass., after a short illness. He was vice-president of Studley Schubert Company, a Boston brokerage investment firm. He was widely known in the investment counsel field, having lectured at Rutgers University and the University of Indiana. Our sympathy is extended to his wife.

David W. Skinner, XIV, has been elected assistant general manager of the Polaroid Corporation. The Sprague Electric Company at North Adams, Mass., has been certified for the second consecutive year as "excellently managed" by the American Institute of Management. Our congratulations go to Robert C. Sprague, XIII, and Harry Kalker, I, and their many associates. James C. Walton, X, Director of Engineering Sales and Manager of Government Contracts at the Boston Woven Hose and Rubber Company was recently honored by being commissioned a Kentucky Colonel on the staff of Governor Lawrence W. Weatherby of Kentucky. Congratulations! (Does he have to wear a sword?) Edward McSweeney, XV, Vice-president and Treasurer of Perkins Goodwin Co., New York City, dropped in to see your Secretary recently. His Company is one of the larger manufacturers of pulp, having several mills strategically located around the country. Formerly with the Conde Nast Publications, he was on his way to a reunion of that organization.

The debate over the selection of a satisfactory place for the 35th year reunion goes on at a pace. In the meantime, we hope we'll see many of you at Alumni Day in Cambridge on June 14. Cheerio! — HOWARD F. RUSSELL, *Secretary*, Improved Risk Mutuals, 15 No. Broadway, White Plains, N. Y. WENTWORTH T. HOWLAND, *Assistant Secretary*, 1771 Washington Street, Auburndale 66, Mass.

• 1924 •

Still a bit to go before Reunion as these notes are written — it will be all over as you read them. One thing is sure. On the basis of a recent Knight-Quarles-Kane expedition to Pine Orchard we certainly picked a beautiful location. It's right on the water, looking out over a sheltered harbor, and the facilities seem entirely satisfactory. We should (or rather, by now, did) have a really good time of it. Details will have to wait until fall.

Now for the news at hand. The cover of the spring issue of "New York Professional Engineer" features a photograph of a distinguished group including Governor Dewey and Anatole R. Gruehr. Then on page four Anatole is shown beaming at New York's Mayor Wagner; and on page 8 an article "1954 Engineer's Week" by the same Anatole. Should have been called the "Gruehr Issue." Occasion was National Engineer's Week, and Dr. Gruehr was the chairman of the committee. Another member of the Class has turned out to be an impresario. Witter T. Cook, better known, like so many of his name in our era as "Doc," will be remembered as the author of the 1924 Tech Show, "The Hidden Idol." Now, it seems, he stage manages the multitude of conferences G. E. holds at its Association Island in Lake Ontario. According to Bill Robinson this is a man-size job and his productions are outstanding. Bet Doc wishes, though, that he had a couple of good leads like Charlie MacBrayne and Hood Worthington again.

Simonds Saga: Latest port of call, Alaska. A far piece from Bahrein! Ruben H. Klainer, one of our few bonafide lawyers, is keeping the name of Klainer active at the Institute. He has a nephew graduating this June; a son entering next fall. Richard F. Shea continues to let the world in on his transistor work. Dick's latest piece, "Transistor Application Fundamentals," in the April "Electrical Engineering." Professor R. Bruce Lindsay, chairman of the Physics Department at Brown since 1934, has been named Dean of the Graduate School, effective July 1. With Harold Hazen in the same spot at the Institute, we're on our way to cornering the graduate student market.

Tough job keeping up with J. Adalberto Roig. Only recently we told you he'd picked up a new vice-presidency. Now he's president! Sterling Sugars is the name. And Al is also now a two-time grandfather. His daughter Aileen gave birth to a baby boy on December 16. Esso Standard announces that R. S. Piroomov, former manager of its Technical Service Division, has been elevated to be assistant director of the Process Division. Piroomov has been with Esso since 1927. Here are a couple we haven't checked on yet. Ralph W. Bartlett, long a Boston man, has moved to Medomak, Maine. Don't know why, but any move to Maine sounds interesting. And Ed Jagger has gone in the other direction. Evidently he's left the Fire Chief's Association to shift for themselves. His new address is Forest, Miss.

Dent Massey is another one who won't stay put. Here we had him all settled in California and now he turns up in New York. He's with (or maybe he is) the Standard-Triumph Motor Company, an outfit handling British cars. Don't know what cars, but if Dent has to be able to get in them it's a cinch they're not MG's.

So much for now. Summer is upon us. May yours be pleasant and productive of rest and relaxation. Be with you again in the fall. — HENRY B. KANE, *General Secretary*, Room 1-272, M.I.T., Cambridge 39, Mass.

• 1925 •

Plans are moving forward for the 30th Reunion and letters are already in the mail

asking various classmates to serve as chairmen of a number of the committees. By the time you read this report, all of the various subcommittee chairmen should be in action. It is my pleasure to report that Ed Kussmaul has already agreed to handle the class reunion report. Recalling the fine job Ed did on our 25th Reunion, I am sure we can anticipate a fine job in 1955. Fred Rice and Frank Turnbull have agreed to serve as co-chairmen of the committee which will handle transportation and parking. Fred Greer will undertake the program for Saturday morning and lunch, while Wally Westland has agreed to serve as one of the co-chairmen and take responsibility for the cocktail party and banquet on Saturday of our Reunion Weekend. We will have considerably more news for you in the early fall, but it would be greatly appreciated if any of the Class having ideas regarding the reunion would send them along. The news release early in April indicated that Arnold B. Bailey, XV2, President of the Arnold B. Bailey Corporation, Amoskeag Bank Building, Manchester, N. H., would address the annual dinner meeting of the Tri-City Radio Council at the Crocker House, New London, Conn., on Saturday evening, April 10. The subject of the talk was, "How to Get the Most From Your Mobile Antenna." As many of you probably know, Arnold is a radio engineer and inventor, the author of "TV and Other Receiving Antennae" and many technical papers. During World War II, he was loaned to the Navy by the Bell Telephone Laboratories to systematize and co-ordinate shipboard antennae on many different classes of naval vessels.

Included among his inventions are the basic coaxial antenna now used universally by police radio and vehicular services, the high gain stocked coaxial antenna system, and several point-to-point antenna systems. He is also co-inventor of the omni-directional airport beacon and recently directed a group which developed a radio communication systems plan for flush deck carriers.

A recent news item indicates that Mr. and Mrs. Edward S. Coburn of Rehoboth, Mass., celebrated their 25th wedding anniversary at the Goff Memorial Hall Parish House in that city. Ed attended the Institute in Course IX-B. Hollis Ware has crashed through with a newsy note which I think speaks for itself, so I will quote it in full: "After all the trouble I used to have getting people to send me news, I am a bit ashamed to admit I haven't sent anything in for years. On April 30, I will have completed my third year as personnel director of General Precision Laboratory in Pleasantville, N. Y. This company, which is heavily engaged in military electronics and commercial TV equipment has increased 50 percent in size since I joined it, in addition to spawning a plant almost as large as was the Laboratory when I joined it.

"In spite of Charlotte's being plagued with ill health, we have managed to keep active in community affairs. We have both helped with the Pleasantville Players, and I have been responsible for a District Nursing Association and the current Cancer Crusade drives here.

"My son Colin, who graduated in '53

has by this time made us responsible for three grandchildren, all girls, and two of whom were born before he graduated. The third arrived last November. They were all here at Christmas. What a house full!"

More notes of this kind would make the Secretary's life a lot easier, so why not try to hand them in? — F. LEROY FOSTER, Secretary, Room 5-105, M.I.T., Cambridge 39, Mass.

• 1926 •

I am writing this season's last issue of class notes a week early because of weather. We have been getting a "monsoon" in New England, with rain for a solid week, so when the sun comes out again, I'm sure I won't want to stay in the house writing: Also, I'm sure Ruth will have some ideas about getting the garden dug up, and so forth. This job isn't like writing a news column anyhow. If I can dig up something about one of our little-known classmates, that has happened in the past five years, that's news. If this wasn't the case, I'd sure have to scratch some of these months. You fellows really do a good job of keeping me posted and I never can tell where the next letter will come from.

This week, for example, I received an airmail from Win Russell, with the address, c/o J. G. White Engineering Corporation, A.P.O. 63, c/o Postmaster, San Francisco, Calif. He starts off: "Dear George — How's the weather down at Pigeon Cove? If it's as pleasant on Cape Ann as it is right now in Taiwan, then you must be spending some pleasant weekends. I came out here in November as Senior Mechanical Engineer for J. G. White Corporation. My work is with the metal industries and that covers a great deal of ground, as the industries here are many and varied and new ones are organizing by the week, it seems.

I have met many M.I.T. men during my travels on Taiwan and recently attended the annual meeting of the Taiwan M.I.T. Club, where, following established custom, they chose an American vice-president. That office landed on my shoulders. The Club has 48 active members and the attendance at the meeting was 21. Several days ago, I paid a visit to the Central Mint of China, here in Taipei, and was surprised to meet H. Y. Lo, one of our classmates, who is superintendent of one of the departments. Lo is a metallurgist, a product of Course III, and was a teacher and professor on the mainland. He reminded me that his initials and name had led the boys to call him "High-Low."

"I'll probably return to the U.S.A. early in 1955 and hope to settle in New England after an absence of many years. With best regards, Win Russell."

Win certainly gets around and bless him, he never forgets to write us. I dug out my '26 *Technique* and looked up H. Y. Lo, because I was quite sure I remembered him and his picture is on page 87. I did remember him very well but I always called him "Mr. Lo." I recall him as always smiling and very good natured. Through the notes to Win — please give High-Low my best and extend the good wishes of the rest of the Class. By coincidence, the clipping services recently sent

us an article about another '26 man in Taiwan. *Aviation Week* had a photo and story about a new tandem rotor, two place helicopter that was designed by Major General C. J. Chu of the Chinese Nationalist Army and which is being built in Formosa. General Chu is a member of our Class and we hope Win will look him up.

An interesting story recently appeared in a Springfield newspaper (I've forgotten which one) about Harry Jenkins, who is a lieutenant colonel in the Air Force and has just been assigned as assistant director of Operation Intelligence at Central Air Defense Force Headquarters in Kansas City, Mo., following his recent return from duty with the Fifth Air Force in Korea. A few years ago when Bud Wilbur wrote his famous M.I.T. song, it was a surprise to most of us that an engineer would have a musical leaning — now Harry Jenkins turns out to be another engineer-composer. Harry is the author of the "Army Air Corps March" and recently wrote a new one, the "Fifth Air Force March." What other '26 man is hiding musical talents? Congratulations are in order for Lewis Buckner, who has just been promoted to associate actuary of the John Hancock Mutual Life Insurance Company in Boston. A clipping about our architectural classmate, Donald Nelson, tells of his many achievements in Texas. Don first went to Texas in 1936 as chief of design and planning on all the corporation buildings, including the federal buildings for the Texas Centennial that year. Now Don is planning the extensive Brook Hollow Industrial District in Dallas.

Before I run out of space, I want to tell you about Rockport's coming sailing event, especially since this is the last issue before summer. I mentioned that we have been awarded the North American Championship Races of the International Star Class. It's only May and already the affair is building up. Last year, there were 29 entrants at Milwaukee so we have set 30 as the low limit here. The experts tell us that many more boats become a terrific handling problem — just getting them over the starting line is complex but in addition they must be hauled out and placed in trailers after every race. We have just heard from Havana that the fleet there is sending two boats and with the Pennsylvania Turnpike and superhighways all down the coast, we know that boats will converge from everywhere. The quaint atmosphere of Rockport has an appeal that has been missing at the big cities, where the fleets have raced in the past. In addition to organizing the championship races, there is another little detail concerning your Secretary even more and that is, will his own new Star, *Flying Cloud* get into the big races? We hope so, with your Secretary as crew and one of our best local skippers at the tiller.

At any rate, we will have a lot to report to you in the fall. Meanwhile, as we always do in this issue, Ruth and I extend our invitations to all of our '26 friends to drop anchor at Pigeon Cove this summer. We always have beer on ice and M.I.T. steins for all. Our best wishes to each of you for a most pleasant summer. — GEORGE WARREN SMITH, General Secretary, E. I. du Pont de Nemours and Company, Inc., 140 Federal Street, Boston, Mass.

• 1927 •

The mail bag has provided only two items this month, and I do hope that everyone will make a special effort to send in news items which will be of interest to the readers of the Class Notes.

Donald L. Campbell, 5 Cambridge Drive, Short Hills, N. J., and John W. P. Packie, are the co-authors of a paper presented in March before the Division of Industrial and Engineering Chemistry at the 125th National Meeting of the American Chemical Society. Mr. Campbell has been actively connected with the design of some of the largest refineries of the Standard Oil Development Company's affiliates and with the development of synthetic rubber and aviation gasoline during the war.

Mr. William J. Rudge of Lenox, Mass., manager of lightning arrester and cutout engineering for GE's distribution transformer department, has been elected to the Duke University chapter of Tau Beta Pi, national engineering honorary fraternity. Bill was honored by the fraternity as an "eminent engineer" on the basis of outstanding professional achievement. He is known as an expert in the field of lightning protection of electrical equipment and systems. — JOSEPH S. HARRIS, *General Secretary*, Shell Oil Company, Aviation Department, 50 West 50th Street, New York 20, N. Y.

• 1929 •

This month we have a letter from Trikamlal Shah, VIA, which is long and interesting, so I'll quote most of it. "Yes, India is a long, long way off and with devaluation of our currency, it is difficult for me to come to the States. As regards my story, I rushed soon after the final examination to India in order to take part in the freedom movement which was then on under the guidance of Mahatma Gandhi. I reached India on June, 1930, and it was in September of the same year that I had my test of imprisonment for defying laws of British Government. On and off, I went into the prison as a soldier of the non-violent freedom fight, for independence of India. I came out in January, 1933, but as some of the other members of my family were also in the movement, someone had to keep out to look after the maintenance. It was I, therefore, who kept out and took various professional jobs. I kept on changing from place to place till finally I was with Tata Iron and Steel Company, Ltd., in 1942. The famous "Quit India" movement started then and I again took part in it. The Tata Iron and Steel Company, Ltd., is one of the biggest steel units in India and also in the British Commonwealth. We had a political strike and the works came to a complete shut down for 13 days. I was imprisoned for taking part in the same and did not come out till May, 1944. The independence of India has since been achieved which is a very recent and well-known story all over the world. You will understand that as fighter in the movement I had a very little chance of saving any money and hence my inability to travel to the States. I had some money, but this I spent in my visit to France in 1948 for study of postwar continental industrialization. I have been serving, since

July, 1949, as the chief electrical engineer of the State of Saurashtra which is my native state, but my term of office is soon terminating and it seems I shall shift again. I have four daughters and a son. The eldest was born the week I came to the States. She took her Bachelor of Science degree in Mathematics and Physics and is now married. She has a son. The second daughter is up to the second year of college. The third child, a son, is attending an engineering college, following electrical engineering in Bombay. He looks forward to going to the States or any other foreign land for practical training. I have yet to see whether it will be possible for him to do so. The fourth child, a daughter, is appearing at second year college examination this year and wants to take medicine. The fifth one, also a daughter, is a youngster in high school. This is a complete story of my family. Please remember me to all our chums whom you may come across and please tell them that howsoever far situated I may be, I cherish the memory of the time spent in their company. I have kept in touch with Professor Wildes all through these years and we exchange letters at times." — PAUL F. DONAHUE, *Secretary*, Conti and Donahue, 239 Commercial Street, Lynn, Mass. FISHER HILLS, *Assistant Secretary*, Dewey and Almy Chemical Company, Cambridge 40, Mass.

• 1932 •

The response to Tom Sears' questionnaire has been most gratifying for your Secretary. Over 50 replies have been received to date, which is not too long after the mailing, and I have hopes of getting a much richer picture of what our Class is up to. The new questions brought out a good deal of new kind of information. I am planning to follow up with postcards those who haven't taken the time to let me hear from them.

These first replies indicate several interesting trends. As of this date there is a very high percentage that seem to confidently expect to make the 25th Reunion. Of course, that is still three years off, but perhaps the water over the dam will mean that even more will decide to come. So far it is about even-Steven on whether we should ask wives and/or children to come. Of those indicating they would like to have their wives, not too many stated that they thought children would also be desirable. There is continued interest in having a class register, at least a half dozen have indicated such interest. I will try to do something about this next winter.

The first news this month is the final capitulation of our outstanding bachelor, Jim Harper. Jim married Ella May Clark, Major, United States Army Nurse Corps, on April 24, 1954. Our heartiest congratulations Jim! Jim is now a full colonel in the Army with a new assignment to the Far East Command for duty in Korea starting in July. He will be overseas until 1957, expecting to get back just in time for the Reunion. Jim is just completing a nine months' course at the Army War College after three years on the Army General Staff.

Bill Kirkpatrick has recently been elected vice-president and technical director of the Allied Paper Mills. Bill has kept up with quite a few of our classmates trav-

eling around for Allied. He also does yeoman service contacting prospective students for M.I.T.

Tom Weston is general manager of The Housh Company, Division of Winthrop-Atkins. Tom married Rose Escott in 1948 and they have two children now to supplement Tom's outside activities, including, member of the State Executive Committee of the Y.M.C.A. of Massachusetts and Rhode Island, Lions Club, and so forth.

Charlie Chapman is chief metallurgist for the Virginia Carolina Chemical Corporation, at Nichols, Fla. Charlie is an enthusiastic amateur radio expert, being president of the Lakeland Amateur Radio Society. He reports that he talks occasionally to Doc Geer of M.I.T., who is presently teaching chemistry at the University of Tampa. Like most Floridian converts, Charlie has no desire whatsoever to return North.

Rudy Tietig is partner and engineer with A. J. Boynton and Company, Chicago, architectural engineers. He is living in Flossmoor, Ill., address simply, Vollmer Road.

Richard Lobban is regional manager of Picker X-Ray Corp. and lives at Milbrook, Greenwich, Conn. New ideas in X-ray, association with medicine and its advances and people are the interesting aspects of his job. Dick was alumni counsellor and secretary of the Class of '29 of Middlebury College. He recently attended the Harvard Business Advance Management course, so Jim Harper isn't the only one of our classmates still going to college. Dick like most others would prefer our Reunion to be held in Cambridge.

Bill Barker, however, sends a strong vote for going to the Coonamesset Club at Falmouth on Cape Cod. Some other classes have held their reunions there with great success, so much so that the Inn is booked for almost three years ahead. Bill reports his business is slowly recovering from the current recession, enough at least to get a new 1954 Olds 98 with all the extras that make one's mouth water.

Rolf Eliassen has found time from his busy schedule at M.I.T. to found the Cambridge Laboratories for Sanitation Research, Inc., together with Ross McKinney of M.I.T. and James Lamb, also of the Sanitary Engineering Staff. Research and consulting work in the field of industrial sanitation, industrial waste, building sanitation, and so forth, are their objectives. Rolf has been very helpful as assistant secretary of the Class.

Leo Tyburski is living at 10 Church Road, Merchantville, N. J., with his family of two children. He is field engineer for The Bristol Company of Philadelphia, and does a little traveling to keep in touch with our classmates. He reports that Bill Sackett Clark has recently married and now lives at 55 Bullitt Park Place, Columbus, Ohio; Wes Van Buren works for the Armstrong Cork Company at Lancaster, Pa.; Charlie Thayer for DuPont at Wilmington, Del.; and Jack Kearns for The Bristol Company at Waterbury, Conn. It is good to have such news concerning our 1932 classmates.

Julius Grozen is in the retail liquor business in Fall River, Mass. He is also commanding officer of the local Naval Reserve Unit and secretary of the Fall River

Port Authority. He is one that would like to find a group of M.I.T. men who could pool ideas, abilities and finances and set themselves up in industry. Not a bad idea.

Finally, John G. Cree is manager of utilities for the Borough of Chambersburg, Pa. Operating a municipal utility system furnishing electric, gas, water and sewer service, gives him a very full slate. Since we last heard from John he has had a third youngster, John, Jr., who is now six years old. He is hopeful of getting back to Reunion.

Since these will be the last notes till fall, I wish you all a fine summer. — ROBERT B. SEMPLE, *Secretary*, Box 111, Wyandotte, Mich. *Assistant Secretaries*: WILLIAM H. BARKER, 45 Meredith Drive, Cranston, R. I., ROLF ELIASSEN, Room 1-138, M.I.T., Cambridge 39, Mass.

• 1933 •

Word came recently of the promotion of Meyer J. Shnitzler to a vice-presidency of the Gillette Safety Razor Company. Meyer is director of product research and also serves on the research staff of the parent Company. He has been with the Company since shortly after he left M.I.T. A few months ago we mentioned the visit to this country of Emile Bustani. More recently we have had word through an article in "Great Britain and The East," an English publication, spinning a most interesting yarn of Emile's pursuits in the Middle East. Emile's organization has been connected with every major oil project in the Middle East in recent years. Currently they are building the new Royal Palace at Baghdad for the King of Iraq. The enterprise has grown to a point where they are now building a 10-story structure in Beirut to house their many activities and the Company owns its own fleet of planes to facilitate getting around to its dispersed activities.

Coming back closer to home, we have had several interesting notes from various members of the Class with welcome personal information: Charlie Britton has been active for several years in the M.I.T. Club of Hartford where he is currently serving as secretary. Walt Duncan who moved into the dry cleaning business in the Philadelphia area soon after graduation is now president of the National Institute of Dry Cleaning and in addition he is also a member of the Board of Managers of the Central Y.M.C.A. of Philadelphia and a member of its Operations Committee. He also has served on the Executive Board of the Valley Forge Council of Boy Scouts and two years ago was president of the Rotary Club of Philadelphia, the second largest Rotary in the world. In his little remaining spare time, Walt serves on the Board of his local church and civic association. Bob Smith, recently reported on from Rochester, sends the additional information that his daughter, Sue, who is 19, is just finishing her first year in the nursing course at Keuka College. Bob also reports a son, Bill, who is 15, and another daughter, Nancy, who is 11. Dave Lee, well remembered as the publisher of *Technique* in our senior year, resides in Bloomfield Hills, Michigan, with his wife and two sons, ages 15 and 12. Dave reports that the younger boy apparently thinks that he would like to follow in his father's

footsteps at M.I.T. Serving on the local Board of Education, Dave spends most of his waking hours worrying about problems of the Ford Motor Company where he has been since 1946. . . . Our congratulations to George Ropes on the birth of his third daughter, and fourth child, on March 24. George devotes his energy to directing the International Air Cargo Service of Acme Air Cargo, a subsidiary of the Acme Fast Freight. I am sure that the Class will be distressed to learn that Bob Trimble has been hospitalized for several years. Currently his wife, Ruth, and his two children, Susan, 15, and Bob, Jr., 12, reside in Seattle. Bob, as many of you know, was an attorney in Shreveport, La., for many years.

Jack Rumsey writes, "I am the Chief Engineer of the Jervis B. Webb Company; and I enjoy the tremendous variety of our installations, in helping people produce better products at lower cost (company plug). I also enjoyed a week of skiing at Sun Valley this past season." John Sterner reports, "I am still with Baird Associates, Inc., of Cambridge, Mass., as vice-president. We manufacture spectrochemical instruments chiefly for the metals, oil and chemical industries. Recently we have also entered the medical field with a very fine flame photometer which is widely used. In recent years I have been more involved in the administration phases of the business than in research and design. However, I did manage in 1950 to finish my work for the doctor's degree under Dean George R. Harrison. In 1947 I built a modest but quite modern home in Lincoln. My wife and I had the fun of designing it ourselves and building it in a woodland setting. Vacations have been spent largely in Bermuda. Present hobbies include army reserve activities in the 1001st R & D Training Group. I am also quite enthusiastic about the work of the Dale Carnegie organization and do some teaching."

Otto Putnam says, "As for news of '33 at Althouse Chemical, George Garcelon and I have both been here about 20 years. George heads the organic research lab developing new dyes and I am plant superintendent. It would be a lot easier for us if guys like Bob Hentschel down at Du Pont's orlon development at Waynesboro, Va., would make the stuff easier to dye. I saw Bob three weeks ago. He has three youngsters, one under a year. He has been doing some very creditable water color work on the side as well as heading the P.T.A. in Waynesboro where he is interested in improving the school situation." An interesting note from Henry Rahmel, living in Chicago, "I spent eight years in the advertising business, most of which were devoted to producing electrical transcriptions of radio programs including the actual handling of scripts and talent. Since '45 I have been with the Nielsen Company presently being numbered among its officers (V.P.). Nielsen serves most of our U. S. major producers of food and drug products, and the advertising and broadcasting fraternity in the field of radio and television audience-size measurement." From Fred Murphy we hear, "There is not much of interest to report except that besides running my plastic moulding business I have a few little avocations such as being trustee of the Public

Library, and the United Fund, director of the First National Bank, the Y.M.C.A. and the S.P.C.C.; vice-president of the local Lions Club, and secretary of the Boston Chapter of the Society of the Plastics Industry and the Attleboro Power Squadron. Outside of these, and being the father of five youngsters I lead an otherwise drab existence, but find a little time for sailing in the summer and skiing in the winter." (Ed. Note: No wonder Fred has so much free time!) — GEORGE HENNING, *Secretary*, 330 Belmont Avenue, Brooklyn 7, N. Y.; R. M. KIMBALL, *Assistant Secretary*, Room 24-204, M.I.T., Cambridge, Mass.

• 1938 •

A note from Norris Barr informs us that he is now a project engineer with the Rheem Manufacturing Company, in Philadelphia. Roy Hopgood has been admitted to partnership in the firm of Mitchell and Bechert. He has been associated with the organization for several years. Milton Wallace has been named Commander of the 44th Engineer Construction Group in Korea. His wife Carolyn lives in Allentown, Pa. Reinhardt Schuhmann has resigned from his position of associate professor in the Department of Metallurgy at the Institute. John H. Craig is the author of an article published in the *Bell Laboratories Record*, March, 1954, entitled "Emergency Transfer for Essential Services."

That's all for this month, and I wish to extend my wishes for a pleasant summer to all the members of the Class. — DAVID E. ACKER, *General Secretary*, Arthur D. Little, Inc., 30 Memorial Drive, Cambridge, Mass.

• 1940 •

From Ed Cook comes word that he is now proud father of a daughter Elizabeth Gallaher, born April 12. Ed also has a year old son Eduard T. Cook, III. At present, Ed is with the Technical Section of the Du Pont Plant in Orange, Texas. From Kenny Davis comes information that he has joined the staff of the U. S. Atomic Energy Commission in Washington, D. C., as assistant director of the Division of Reactor Development. Formerly, he was manager of the Research Division of the California Research and Development Company of California, a subsidiary of the Standard Oil Company of California, and had been a professor of engineering at the University of California at Los Angeles.

Ernest Chilton has been promoted to development supervisor in the mechanical and electrical engineering department of the Shell Development Company. Colonel Stanley W. Connelly, who spent one year with us after his graduation from West Point, is now deputy chief of the Cleveland Ordnance District. In this capacity, he passes on expenditures which range up to 60 million dollars a month. I. M. Pei, who is director of the architectural division of Webb and Knapp, is one of the people chiefly responsible for the current proposal for redevelopment of the South West Section of Washington, D. C., at present one of the worst slum sections in Washington. Colonel Oliver G. Haywood, Jr., is the author of a very inter-

esting article in the March 28 issue of *This Week* magazine in which he severely criticizes the Defense Department and Congress for certain practices which have been driving some of our best soldiers out of military service. For example, he criticized the practice whereby an officer could no longer retire with a pension after 30 years of service, unless he had also reached his sixtieth birthday and pointed out that an exception to this would be made if the 30-year man, who was still under 60, was judged incompetent. In the latter case, he would receive retirement pay for life, while those who did their work well would be released with nothing. He also pointed out how Army salaries had remained relatively constant within the last 30 years in comparison with the great increase in civilian salaries.

That about winds up another volume of the class notes in the Technology Review. We will be back in the fall with preliminary notices about our 15th reunion in June, 1955. Your Secretary plans to be there and hopes to see as many of you there as possible. In the meantime, whenever you have a little spare time, don't forget to write to Al. — ALVIN GUTTAG, *General Secretary*, Cushman, Darby and Cushman, American Security Building, Washington 5, D. C. MARSHALL D. MCCUEN, *Assistant Secretary*, Oldsmobile Division, General Motors Corporation, Lansing 21, Mich.

• 1941 •

A clipping from the Quincy *Patriot-Ledger* on the retirement (April 1) of Benjamin Fox was of particular interest to Shirley and me, for we had become acquainted with Bill's folk and had called on them several times since we moved here in 1950. The visits were most pleasant, and the things of common interest were many. Mr. Fox was superintendent of engineering and design of the Bethlehem Steel Company, Shipbuilding Division. They are now living in Bethlehem, Pennsylvania, where their other son, Sidney (X, '35), is a research chemist with Bethlehem Steel. Bill and his family live in Towson, Maryland; Bill is in Bethlehem's Sparrows Point shipyard.

George F. Quinn has been appointed, assistant director of operations of the A.E.C.'s productive division. During the war, he was employed on the Manhattan Project, being stationed at Columbia University, Chicago, and Oak Ridge. He joined the A.E.C. five years ago after having served as a professor of economics at Columbia. He and his family of six children now live in Falls Church, Virginia. Everett Greenbaum is one of the co-writers of the television show "Mr. Peepers," starring Wally Cox.

Recent address changes include: Stanley Backer, from London back to the Institute; Ares G. Bogosian, 511 Swarthmore Avenue, Pacific Palisades, Calif.; Monroe L. Norden, Apt. 11A, 509 W. 110th Street, New York 25, N. Y.; Major David H. Pepper, Solana Beach, Calif.; Albert J. Ruf, Munsell Road, East Patchogue, L. I., N. Y.; Milton Sanders, 1445 Ferndale Avenue, Highland Park, Ill.; John P. Webber, 77 Atwood Avenue, Newtonville 60, Mass.; John F. Wilson, 3020 Southern Boulevard, Dayton, Ohio.

Thus we end another publication year of *The Review* and the class notes column. To all of you who have written, thanks again; to those who haven't—it's not hard! Let's hear from you during the summer, be it from the North Woods or the South Pole. Have fun, all of you; we'll meet here again in the fall. — IVOR W. COLLINS, *General Secretary*, 28 Sherman Road, Wakefield, Mass. JOHAN M. ANDERSEN, *Assistant Secretary*, Saddle Hill Farm, Hopkinton, Mass.

• 1942 •

This month's mailbag is full, and it's a real pleasure to dig into it. First on the list is Jerry Coe's Class President's letter and in addition a direct note from him bringing us all up to date on the Coe family, the Seeleys and the Hendersons. Jerry and Peggie will be moving this summer to take care of a planned expansion of 25 per cent. Congratulations and best wishes from all of us. Frank Seeley left the rush and the clamor of New York and the sales office of Trumbull Electric and is now in the pretty, quiet town of Plainville, Conn. at Trumbull's headquarters. He manages a bit of traveling on sales training programs and Jerry gets to see him as he stops over in Schenectady. Frank and Edie have three children. Hank Henderson and family have moved from the old home town of Alexander City, Ala., up to Chattanooga. The bait was a fine position in a company making cotton knit goods. Hank is in charge of knit cloth production. He, Jean, and the children are now at home at 611 East Brow Road, Lookout Mountain, Tenn. Jerry also reports that Heine Shaw's parachute jump (Review, December '53) was followed up just one week later by the birth of the second child to the Shaws.

Marty Levene, one of the many M.D.'s in our Class, dropped in recently for a spot of cheese and beer and, before we got too far into the potables, we set down a few items: Florence Ann arrived 11 days after his birthday on March 16. She checked in at 6 pounds 9 ounces and 19 inches. He and Irma will now have a lot more time for social life, tropical fish, their three youngsters (Douglas Barrack, Steven Rudolph, and their newly-arrived sister), color photography, and a DeWalt since he has just taken and passed his Boards. Dr. Levene has received his certification in Radiology from the American Board of Radiology, is on the staffs of The Massachusetts General and the Beth Israel Hospitals, and will enter private practice this summer. At the B.I. Marty will be setting up a radioisotope therapy department. (He has been working full time on his medical studies ever since returning from Europe and leaving anti-aircraft guns in the fall of 1945.)

A note from Maury Katz we quote: "I received the class letter of April 29 from Jerry Coe which has served as a catalyst to plunge into writing a letter to our class Secretary for the first time since graduating. Since attending the tenth reunion at the Griswold, Groton, Conn., we have had one addition to our family by the name of Jeffery Howard Katz, age 16 months. He, together with our daughter Connie, age 4½ comprises our family. (P.S. I have a wife, too.) I am still involved in the

aluminum warehousing business in the form of Aluminum Division, Atlantic Steel and Iron Company, which is owned by my brother and myself. As for social activities, I am leaving shortly for a seven-week trip to Europe. Needless to say, I am looking forward to the trip. The only drawback is that the golf season will be shot by the time I return." *Bon Voyage* and best wishes for a good time from us all. Does this kind of a seven weeks' absence give an automatic higher handicap?

We note with pride that John Senior's New York Airways, Helicopter Service, is doing lots of business, has been written up in the New York *Times* Magazine Section, and has served as a background setting for a fashion ad in one of the national magazines. A letter from Ed Vetter, which Charlie Speas passed along says in part: "As I look back it is plain to see that a lot of water has passed under the bridge since I departed from Cambridge in 1942. I was able to return to Tech for the 10th Reunion and again last fall but the place has changed so radically and all the parking space has been so thoroughly gobbled up that it just didn't seem like the same old school. I have been keeping in somewhat haphazard touch with three of the fellows from our Class who were in my house, Kim Raynsford, Maurie Taylor and Cart Laffon. After the usual four year stint in the Army, I got out in '46 and went to work for Standard Oil Company of California. I left them in September of '52 and moved to Dallas where I am currently associated with Geophysical Service Incorporated in the capacity of assistant vice-president. G.S.I. is a contract oil exploration outfit and is a subsidiary of Texas Instruments. We have pretty close to 1000 employees scattered all over the face of the earth engaged in oil exploration. The work I am doing is most interesting. I've been married for about 10 years now and have three girls, three, six, and seven. Apparently, females seem to run in our class (note: Charlie and Betty Speas have two). I wish you'd relay the word to any of the fellows in the Class to look me up should they ever be down this way and I'd sure be interested in getting back on the active roster of Alumni to find out what is going on in the other areas."

Jim Littwitz writes that: "I'm still at Kodak working as a technical staff assistant in the Paper Sensitizing Division. My main concern for the past five years has been and still is the manufacture of Kodacolor paper. So please help out this summer by taking a lot of Kodacolor pictures! I am also an Educational Counselor and represent one of the high schools in the area. I am quite happy as one of my boys was just accepted at Tech for the fall, so I feel my work has not been in vain. In addition to the normal duties which befall a house-owner I find time to be active in Toastmasters International and am president of one of our local clubs this year. In line with this I am on the Speakers' Bureau for the Red Cross Blood program. That's it for now — see you at our 15th reunion."

Joseph E. Welsh has wound up his military service days and is now at the American Institute for Foreign Trade in Phoenix. Over the years he has been engaged in Puerto Rican and Brazilian construction work and once held an engineering post

with U.N.R.R.A. in Shanghai, China. Dr. Clinton Cook, Professor of Chemistry at the University of Vermont, has received a renewal of his Frederick Gardner Cottrell Grant for continuing his research work. His project is concerned with the free radical reactions of hindered phenols—used widely in lubricants, gasolines, fats, and oils to inhibit air oxidation.

The Reverend Ralph L. Tucker has become rector of St. Martin's Episcopal Church of New Bedford. Mr. Tucker served as missionary at Changshu, Kiongen, China, following his ordination. From 1948 to 1950 he was chaplain at St. Mark's Hospital and Vicar of St. Peter's Mission in Salt Lake City, Utah. In 1950 he became rector of the East Providence Parish. Mrs. Tucker is the former Mildred R. Moore of New Bedford and the Tuckers have four sons, Ralph, Jr., Richard, Roger and Paul.

Long distance move of the month is by Wallace P. Reed from the States to the Philippines. Wallace is now with the Quality Furniture Store in Alaminos, Pangasinan. Warren B. Christie has been promoted from commander to captain and is now at the Brooklyn Naval Shipyard. Other address changes are: James D. Crooks to Palisade, New Jersey; Eric Cutler to Westwood, Mass.; Walter E. L. Davies to Mount Tabor, N. J.; Francis Di Salvo to Reading, Mass.; Alan W. Katzenstein to Peter Cooper Village in New York City; Jim Klein back to Chestnut Hill, Mass.; Walter M. Kneeland to Ridgefield, N. J.; Daniel R. McNeal, Jr. to Jenkintown, Pa.; Wallace S. Murray, to Dedham, Mass.; Edward M. Redding to Baltimore, Md.; Walter J. Robbie to Asheville, N. C.; Frederick G. Roth also to Jenkintown, Pa.; Raymond W. Shrewsbury to Rochester, N. Y.; John D. Stanitz to Palos Verdes Estates, Calif.; and Ed Telling to Stroudsburg, Pa.

Our special thanks to correspondents Jerry Coe, Maury Katz, Ed Vetter and Jim Littwitz and best wishes to all for a gay pleasant summer with lots of golf, sailing, picnics, swimming and loafing—and the very minimum of mosquitoes, extra work, and sudden sunburn.—LOUIS ROSENBLUM, *Secretary*, Photon, Inc., 58 Charles Street, Cambridge 41, Mass.

• 1943 •

From the Vermont newspaper, *Burlington Free Press*, came a clipping informing us that Solomon Lifson, Director of health education of the National Tuberculosis Association, will be the consultant for a two-week health education workshop to be held in July as part of the summer session at Castleton Teachers College. Sol, a graduate student with our Class, has conducted health education classes at Yale, Columbia and M.I.T.

John J. Hess, Jr., authored a paper entitled "Monitor for Automatic Pilots," which appeared in the December, 1953 issue of *Electronics*. John presented his paper at a meeting of the A.I.E.E. and I.R.E. Joint Students Branch of Northeastern University in December. He also presented a paper, "Servomechanisms" at Purdue in December, which shows how busy he has been.

Received a letter from a class wife, which I shall pass along to all: "Kindly

change our address as of June 1 to c/o Lock Joint Pipe Company, P. O. Box 269, East Orange, N. J. My husband, Warner B. Smith, I, has been transferred to Cape-town, South Africa, for two years. I plan to join him in June with the children, Beverly, five, and Jacquelyn, two. We shall go by boat from New York by the 17 day non-stop trip. My maiden name was Doris Cooper, Simmons, '43. Perhaps this would be of interest to the Class Secretary. Sincerely, Doris M. Smith." Thanks, Doris, for a fine letter, and I'm sure you have inspired the other wives.

And from 622 North Main Street, Herkimer, N. Y., comes this letter from classmate Fred Dickson: "Dear Dick, There is finally some news to report on one of the last bachelors of the Class of '43. I have just become engaged to Jean Price of New York, and we expect to be married in the fall. Since I got out of the Navy after World War II, I have been with the engineering department of E. I. Du Pont. Am now stationed at the Remington Arms Company gun plant at Ilion, N. Y."

Elliott C. Levinthal heads Levinthal Electronic Products, Inc., a new corporation located at 2821 Fair Oaks Avenue, Redwood City, Calif. The new firm will combine in its activities the research, development, production and merchandising of a broad line of electric medical instruments as well as other products in the field of electronics and applied physics. Dr. Levinthal has had considerable experience in these fields, is a graduate of Columbia University and holds advanced degrees from M.I.T. and Stanford.

This issue of The Review winds up the present volume and these notes for a few months. During the summer I shall expect to receive a bunch of letters from you all. Happy vacations!—RICHARD M. FEINGOLD, *Secretary*, 49 Pearl Street, Hartford, Conn.

• 1945 •

Although it is a cold, wet, miserable weekend as we write these notes, we trust that they eventually reach you under ideal summer climatic conditions. Yes, July 1955—only eleven (count them) months before our tenth reunion. William H. Martin has accepted the chairmanship of the reunion committee. We all know Bill will do a fine job—but how good a job depends entirely upon each and every member of the class; after all, it is his desire to provide along with his committee the type of reunion you guys and gals want. Unless you set forth your ideas what will Bill have in the way of a guide? Please send your thoughts to Bill directly at 7 Prince Street, Marblehead, Mass., or to Prexy Chick Street or myself at our respective addresses. As yet, Bill has not set up his reunion committee but we expect to have the ball really rolling by the time these notes appear in print.

Your Secretary saw Bill McKay in Baltimore in mid-April. We were very sorry to hear of the accident Bill's oldest boy David experienced on Easter Sunday. The McKays have just bought one of Baltimore's famous row houses; Bill was pleased to say, however, that it was an end one! Bill, as most of you know, is a highly successful sales representative of Ameri-

can Air Filter in the mid-Atlantic area. Bill told us of the early April marriage of Max Ruehrmund. Since Maxie lives only six or seven buildings away from us here in White Plains, we gave him a call and here are the details: Max and Gertrude Rienzi were united in St. Bartholomew Episcopal Church, White Plains, N. Y. on Saturday, April 17. After a wedding trip to Williamsburg, Va. and the Ruehrmund Farm on Maryland's eastern shore, the newly-weds took residence here in White Plains. Max and his wife commute daily to General Food's Baker Division plant in Hoboken, N. J.

We recently reported that Jerry MacKinnon was living in Canobie Lake, N. H. As we suspected Jerry doesn't spend all day fishing for he is general superintendent of some textile mill in Lawrence, Mass. Chick Street recently received a note from J. J. Strnad—nothing new except for another heir expected in June. Speaking of children, Jerry Patterson reports the birth of a third son, Robert Davis, born on January 6. From the date you can well imagine Pat's sorrow as well as the Bureau of Internal Revenue's glee! Guy W. Gilleland, Jr., reports his recent transfer to N.Y.C., from Jacksonville, Fla. After receiving his M.B.A. at Harvard Business School in 1952, Guy went with the St. Regis Paper Company as an administrative assistant to the chief engineer at a new paper mill in Jacksonville. Guy's new position is assistant to the vice-president of manufacturing. Bill Niedhamer reports his release from the Navy where he spent nearly two years as gage laboratory officer at the Torpedo Plant, Forrest Park, Ill. Bill is now plant engineer at the Los Angeles Soap Company.

The M.I.T. Club of New York roster reports the whereabouts of the following boys. Dick Cannaday, XIII, is an engineering representative for Intertype Corporation in New York City. Edward Y. Chung lives in Flushing and spends many of his waking hours as a chemical engineer at Kenrich Corp.—manufacturing chemists. Ralph P. Cromer, formerly of Miami where he was vice-president of the local M.I.T. Club in 1951, is now living well out on the Island. Ralph is in the gas utilities end of Stone and Webster. Several of us are not practicing engineering as evidenced by John K. Delaney's work. Jack is trading railroad securities for Salomon Bros. and Hutzler, N. Y. investment bankers. Steve Eppner is out of the Navy but we have no idea what he is doing. Tom Hood, a White Plains neighbor, is an engineer with George H. Fuller Company while Lieutenant Sam Moore, III, is doing marine inspection work for the Coast Guard in the New York area. John E. Plantinga, a director of New York M.I.T. Club, is a designer with the consulting engineering firm of Meyer, Strong, and Jones. Tom Smith, I, is a civil engineer with Industrial Engineering Company—building contractors and specialists in concrete construction. C. C. Buik's latest address is Consultants, Inc., in Boston, so I guess our boy is out of the Navy after 11 years of active duty. That's it for this volume. Have a pleasant summer.—CLINTON H. SPRINGER, *Secretary*, c/o Firemen's Mutual Insurance Company, 420 Lexington Avenue, New York 17, New York.

A letter on the stationery of the Ambassador Hotel, Bombay, India, comes from John Kellett. The letter is dated April 25, and John writes: "For quite a while I've been meaning to write and let the Class of '47 know what I've been doing, but I just haven't gotten around to it until now. Actually, I expected a little conversation with you at Alumni Day last June, but you rather spoiled that by having to leave for New York or somewhere almost immediately after Rufe Franklin and I had seen you. I see that this meeting was mentioned in the class notes, so at least people know I'm alive.

"For the record, after graduating in '47, I went on to get my S.M. in Chemical Engineering Practice at Tech in September, 1948. Then I started work for the Standard Oil Development Company, an affiliate of Standard Oil (N. J.), and have been there ever since. I'm working in the Engineering Research Division of the Esso Engineering Department, which does the design and engineering work for all the refineries of Standard Oil (N. J.) and its affiliates.

"My present assignment is a little different than usual. I'm one of a group who are acting as advisors on the starting of a new refinery of Standard-Vacuum Refining Company of India, one of our affiliates. The refinery, which we designed, is just outside of Bombay. I expect to be here until October, which means during the hot and rainy season. However, Bombay is a fascinating place, even when the weather is uncomfortable.

"I see Rufe occasionally; he should be finishing law school at George Washington University in a couple of months. He's been going to law school nights while working as a patent examiner in the Patent Office."

The other news item we have to report this month is an unhappy one. Leo E. Monks, Jr. passed away on April 7. He was a cum laude graduate of Boston College, and did graduate work with our Class. He served with the Signal Corps during the war, and was a member of the Catholic Alumni Sodality of Boston. — CLAUDE W. BRENNER, *General Secretary*, 1470 Beacon Street, Brookline 46, Mass.

• 1948 •

Bob Loewy of Buffalo reports that he has left the Piasecki Helicopter Company to become staff assistant to the head of the Aeromechanics Department at Cornell University. Paul Erskine, who was a textile specialist for Owens-Corning Fiberglass Corporation has been appointed West Coast manager for the industrial products division of Hess, Goldsmith and Company. Neil Helmers reports that he has been transferred by Du Pont from their Engineering Department in Newark, Del., to an engineering field group at East Chicago. Jules Sandock was discharged by the Air Force in September of 1953 and now he is working for Bell Aircraft as a servo-development engineer. Lieutenant Colonel Charles H. Banks, whose wife, Elizabeth, and two daughters live at 136 Twiggs Road, San Antonio, Texas, was recently awarded the Republic of Korea Presidential Unit Citation as a member of the

Army's Korean Communication Zone Headquarters. In awarding the decoration, President Syngman Rhee cited the Headquarters for "supporting all friendly forces in Korea" and contributing to "comprehensive economic aid and relief programs for the Republic of Korea." Colonel Banks, who has been in Korea since last August, is assigned to the operations division of the engineer section at the headquarters. He is a graduate of the U.S. Military Academy at West Point, N.Y.

The marriage of Marie Breckwoldt to Gardner Bent, 2-44, has been reported. Mrs. Bent is a Smith B.A. and M.A.

We received a newsy note from Howard Jacobson which we are happy to recount: "I have always enjoyed reading your class notes and have meant to write you for some time. I am married and my wife Claire and I have a three year old daughter named Gail.

"I see Henry Warner every few months. He is married and has one child — practically two! Henry is account executive for Heller and Meyer, Stock exchange brokers, with an office in East Orange, N. J.

"A few days ago I was walking up Broadway near Bleeker Street when I bumped into Dick Cotton who was rushing out of one of the buildings. Dick is manufacturing a new meat preservative that he invented. He has been in business for himself a few months and likes it very much."

Howard went on to say something about how much he enjoyed reading the notes each month and how we always have difficulty in getting any information from you people. Well, we certainly thank him for taking the trouble to send us a line and we hope to hear from more of you soon. Have a good summer! — WILLIAM R. ZIMMERMAN, *Secretary*, 3130 North Lake Shore Drive, Chicago 14, Ill. RICHARD H. HARRIS, *Assistant Secretary*, 26 South Street, Grafton, Mass.

• 1949 •

Next fall a new name will be at the end of the '49 notes. Since these notes must be written two months in advance, I don't know who the new class secretary will be, but I do know that the results of his efforts are a direct function of the co-operation he receives from you, the members of the Class. So it is up to you; give him a hand. In parting I would like to say I enjoyed writing the Class Notes and feel as if I know many of you intimately from the mailings that have come in.

The reunion is past and will be the big item of news in the first fall issue. The following is mainly catching up on the items forwarded to the reunion committee and the Secretary. Both Tom Weil and Gregor Meyer cancelled plans to make the reunion as the first additions to their families were due. The Holzwarths also had to cancel plans as our second was due.

Jerry Lewi writes, "Four months after graduation I was drafted into the Army where I spent most of my time at Ft. Monmouth in the Signal Corps Engineering Labs. I was assigned to various plants producing signal equipment in order to assist them technically to get into production. This included five all-expense-paid trips to my home. After getting out in November of '52, I hooked up with the

Packard-Bell Company as a senior production engineer with responsibility for all tests, inspection, production planning and liaison to engineering for the Government Contracts Division. We are a medium-sized company and one big happy family. Incidentally, I'm taking Course XV — type subjects at U.C.L.A. at night to cope with some of my assignments. I married Miss Marjory Schulhoff of Pelham, N. Y., last June, with Herb Federhen as best man and Dave Moore as an usher. We are now living in our own home in Venice, Calif. Herb is a first lieutenant in the Signal Corps (we were at Monmouth together) and is in the Far East, having decided to stay in the Army. He has a son and his wife is expecting another child. Dave Moore is working in Wilmington for United Engineers. John Rau and his bride of a few months were out here from Milwaukee on a business-vacation trip. John is with A-C Spark Plug."

Doris and Malcolm Kurth have recently purchased their own home in Schenectady. He is still working for G.E. on Navy fire control systems, doing a little electrical design and some system engineering. George Freund writes that he set up bachelor quarters with another fellow the first of the year in Elmhurst, Ill., and recently spent six weeks in Idaho.

From Gene Skolnikoff comes the news: "After receiving my Master's in E.E. (Co-operative Course) in January, 1950, I worked for four months at the Servomechanisms Lab at the Institute. This was followed by a two-month summer job at Uppsala University, Sweden, under the auspices of the foreign summer study group at M.I.T. In the fall of 1950, I took up residence at Oxford University on a Rhodes Scholarship and graduated two years later with a B.A. in Philosophy, Politics, and Economics. Rather a far cry from E.E., but the two years were highly successful in every way and thoroughly enjoyable. Since my return to the U. S. in the summer of 1952, I have been working at M.I.T. in the Industrial Liaison Office. The two types of training will lead, I hope, to an administrative position in industry. I expect to be around these parts another year or so."

J. Bernard Quigley has completed a recall tour of duty in the Navy and returned to practicing law with Cahill, Gordon, Reindel, and Ohl in New York City. Harwood S. Rowles, Jr., is now chief methods engineer at Fenwal Laboratories in Framingham, Mass. Fenwal manufactures plastic blood collection and transfusion equipment and has developed a new technique for handling, collecting, and transfusing whole blood and its derivatives. Kenneth McGrath has moved from the Pacific Northwest to take a job as assistant to the vice-president in charge of manufacturing with the Hunt-Spiller Manufacturing Corporation in the Boston area. Chuck Miller was a test pilot at Edwards A.F.B., Calif., for three years, and is now staff engineer, Cockpit Design and Flight Safety, Chance Vought Aircraft, in Dallas. Al Cavalieri '48 received one of Philco's annual Achievement Awards this spring for meritorious achievement as a member of their technical staff. Frank Hulswit, who is on the operations research staff at Arthur D. Little, spoke before the Provi-

dence Chapter of the Society for the Advancement of Management on the application of the analytical and experimental methods of the physical sciences to business. Kenneth X. Smith was recently promoted to the rank of lieutenant commander in the U.S. Navy at Skiffe Creek, Conn. Arthur Morrow, recently discharged from the Navy as a lieutenant after 11 years, is doing radar development research for air defense at M.I.T. Arthur Nersasian has joined the staff of DuPont's organic chemicals research center at Jackson Laboratory, Deepwater, N. J.

Married: Alfred J. Cann to Edna Banis on February 13 in Newton, Mass. Peter J. Lazarkis to Sally Mary Sperakis in Cambridge, Mass. — CHARLES W. HOLZWARTH, Secretary, 1426 Grace Avenue, San Jose 25, Calif.

• 1951 •

The Good Ole Summer Time is here again. For many of us summer represents that delightful time of the year which may permit us to make the journey to Tech for Alumni festivities. Summer vacations give us a chance to back away a bit from the normal routine to get a fresh perspective on life and our goals. In short this season of the year is a grand time to be alive!

Sometime ago your Secretary reported that he believed that John Clegg was at the IBM lab here. A letter recently arrived from the University of Michigan. John writes: "Since September, 1951, I have been here at the University of Michigan Department of Chemistry working for a Ph.D. A year ago I picked up a MS in Chemistry. Until last February, I was a Teaching Fellow, but now I am working full time on my research. Among the other Tech men here, there is Louis Galen, Paul Lobos'50, and George Grenier and Morley Russell'53. Lou became engaged early last December. John Morgenthaler is now working for P & G in Cincinnati. Incidentally, it is my brother, George, who is working for IBM". Thanks, John for setting the record straight and good luck in your endeavors!

John Baileys, now an aeronautical research scientist at the N.A.C.A.'s Lewis Flight Propulsion Laboratory, presented a paper at the American Society of Lubrication Engineers meeting in Cincinnati. The title of the paper is "Investigation of Start and Early Stages of Fretting of Copper, Iron, and Steel." This technical paper, with the aid of color motion pictures taken through a microscope, explained the wear phenomena occurring in the start of fretting of copper, iron, and steel. Fretting, the damage which occurs to the surface of a solid when it vibrates against another solid, is a serious wear problem in machines today because it is often a source of breakdown, and is difficult to prevent by lubrication means. John's co-author was Douglas Godfrey, another Lewis scientist. Dr. Allen Gee and Dr. V. R. Deitz at the National Bureau of Standards developed a rapid one-step procedure for orthophosphate determination which combines the essential simplicity of a spectrophotometric method with the precision of careful gravimetric analysis.

Bill Krivsky, after completing work at Tech for a B.S. and a S.C.D. in Process Metallurgy in 1951 and 1954 respectively,

joined the Metals Research Group of the Electro Metallurgical Company at Niagara Falls. Bill's S.C.D. dissertation was "The Thermodynamics of the Copper, Iron, Sulphur System at Matte Smelting Temperature." The physical chemistry of steel making will be Bill's assignment. Dave Prince became a candidate for the planning board of the city of Marblehead in March. Dave is currently employed at the G.E. plant in Lynn. Gordon Rampy is presently employed by the Goodyear Atomic Corp. After completing his temporary assignment in Oak Ridge he transferred to the Portsmouth, Ohio, plant site about June 15. Dave Sadick has been licensed as a public adjuster of fire losses in Worcester.

Russ Shorey continues to make interesting news. After spending three and half months last winter doing research on the properties of ice in the sub-zero darkness of Fletcher Island — 300 miles from the North Pole — Russ switched his activities from the Air Force to the American Geographical Society. He is in charge of the society's part in the world-wide scientific observation of the solar eclipse on June 30. The study is under the overall direction of the Air Force Cambridge Research Center with scientific teams participating from two American universities and a Wisconsin laboratory as well as American Geographical Society scientists. The study will be the most comprehensive in history, since another total solar eclipse will not span the mainland of North America and Europe until the year 2151. During the three and a half minutes of the total eclipse phases including a short time before and after it, the scientists will be working intensively at their recording instruments. Solar observations will have two main goals. The first is a measurement of true distances between North America and Europe. The second is the testing of three different types of photographic and photoelectric equipment used in the observations. As part of his activities Russ recently returned from a three-month tour of Iran, Denmark, the Faeroes and Shetland Island, and Iceland. In Iran, during the eclipse, Russ will be working with Dr. Hynek of Ohio State University who will be in charge of that scientific mission.

Ken Walijarvi, Assistant Professor of Architecture at the Washington University (St. Louis), together with another professor and 45 students worked out a proposed 50-year redevelopment plan for the city of Valley Park. The proposed plan, parts of which will go into effect immediately, outlines a pattern of controlled growth for Valley Park aimed toward making the town a suburban community, an industrial area, and a recreational area for greater St. Louis. J. F. Wygant together with W. D. Kingery'48 was honored at the 56th annual meeting of The American Ceramic Society with the Ross Coffin Purdy Award for the most valuable contribution to ceramic literature made in 1952. The prize winning series, entitled "Thermo-Dynamics in Ceramics, I-VI," appeared in the May-October, 1952, issues of the Ceramic Bulletin.

Ralph Vitti is now serving with the Army in Texas. In March of this year he returned to the U.S. after spending a

year in Korea. Tom Lockerbie is pursuing further studies at M.I.T. Roy Niemela, after shedding his Air Force blues, now has one year of work to his credit in the Industrial Management School at M.I.T. Your Secretary hopes that all of you will have a very relaxing and mentally stimulating summer. News concerning your activities will be highly appreciated so shock your Secretary with a note or two. Station SJM is now signing off for the summer — see you next fall! — STAN MARCEWICZ, Secretary, Route 2, Highland, N. Y.

• 1954 •

Another Class joins the ranks of Tech Alumni and another class Secretary joins the ranks of those reporting the doings of his classmates. I hope I can live up to the example set by my colleagues. Most of the information for these notes was culled from two or three strategic sources, since deadline difficulties prevented much personal contact. I hope to reach all of you personally sometime this summer to get more details about the Class for the first fall issue of the Technology Review. But let's see what some of our associates will be doing.

Quite a few of us apparently still enjoy the academic life. Bob Anslow is entering the Harvard Business School this fall, as are Bruce Brosler, Dave Newton and our Veep, Roy Riedinger, Jr. Larry Leonard and Jerry Cohen have research assistantships for graduate work in metallurgy at Tech. Jim Rude will take his slide rule west to the University of Chicago, where he will be in the company of Bob Evans and Camillo Ghiron. Camillo plans to enter the School of Medicine there. Otto Selinger is heading South to Tulane University. Jack Overley, Dale Rice, and Howard Brody are launching a joint attack on the hallowed halls of the California Institute of Technology.

Among those who are going out to face the world, Erik Gelotte and Jim Hazard will join the staff at Scott Paper Company in Chester, Penn. Nick Blazensky has really been making plans. He is getting married and then attempting to avoid the Army long enough to get started at International Business Machines Corporation. The Army will probably catch him first, as things stand now. George Voss and his wife are quitting New England for Akron, Ohio, where George will advance the B. F. Goodrich Company. Alex Pansley, Joe Pennimpede and Jay Fues are among the crowd moving in on General Electric Company. Joe thinks (Ha! he knows) that a stretch in the Army will probably delay his arrival at Schenectady. He is also among the newly wed. The Shell Oil Company will be the future address of several members of the Class, although these men are stationed all over the United States. Kipper Cullimore is going South to Westwego, La., while Mike O'Neill is at the Shell Oil Company of Los Angeles for the summer. George Klein and Stewart Smith are joining other branches of the same company.

Dean Jacoby is spending the summer at Scott Air Force Base in Illinois. After his stay there, he hopes to buckle down to work for his father at C. J. Jacoby and Company. Dean's address, by the way,

should you want to contact our President, is Fairmount Addition, Alton, Ill. Herb Slater is also planning on joining his father in business at the Slater Electric Company. Corky Goodman, George Filak, and Warren Davis are all among the recently married. George is moving to Beaumont, Texas, where he joins the Magnolia Petroleum Company. Warren and the Mrs. are remaining here at Tech, as Warren goes after some more education.

Some pre-graduation news which you may have missed concerns two recently honored members of the Class. Chuck Masison received the first annual Compton Award, established by the Boston Stein Club, for his leadership and high ideals during his undergraduate career. Chuck received the Award at the Institute-wide Convocation in May. Ed Kaszynski took first place with his paper on metal cutting at the annual American Society of Mechanical Engineers Regional Student Conference held at Potsdam, N. Y., also in May.

Looking forward to our Twenty-Fifth Reunion and our gift to the Institute, our class officers, with Mr. Stanley Turner '22 of the Provident Mutual Life Insurance Company, have prepared a plan for our Class Gift. Under this plan, we buy regular life insurance, and after a two-year period, revert the dividends from the policy to a class fund. So, when you're thinking of buying insurance, we hope you'll seriously consider this plan, and talk to Mr. Turner about it. He is at the Boston office of Provident Mutual.

But enough about finances. Let's get back to the illustrious personalities of the Class. At graduation time, about 150 members of the Class had been accepted back at Tech for graduate work. These eager beavers include Dave Richard, Paul Gray, Herb Jacobson and Bill Eccles. Ernie Abrahamson and Tom Gibbs are returning for more work in metallurgy, while Harris Notarys will strive toward his Ph.D. in physics. Dan Farkas, Tony Turano and Dave Wones are also keeping their plans at Tech. Harold Kaplan, however, is taking his analytical mind and fluent pen down to Princeton, N. J., where he will continue his studies in mathematics. Marty Mills heads for Pittsburgh and the Carnegie Institute of Technology, while Charlie Mraz and Bob Hobart are hitting the covered wagon trails for Stanford University.

Some of our more ambitious and/or studious colleagues have received Fulbright Scholarships. Paul Spreiregen and Marty Cohen are going to Italy and Ron McKay to Germany. Ed Smith, John Allen and Dick Lane are entering the medical profession via the University of Mississippi, Columbia University and Cornell University respectively. Gerry Golden will do his graduate work at Rensselaer Polytechnic Institute, while Bob Schultz will set up shop at the University of Illinois. Rae Fessel has a teaching assistantship in physics at Purdue University.

John Wells is rushing to the defense of

the U. S. as a member of the Marine Corps. Tom Bird, Gene Kovary and Fred Zappala are donning the Army khaki, and Joe Scheller and Dick Hayes are marking time as members of Uncle Sam's Air Force. Dick is spending the summer at Ethan Allen Air Force Base in Vermont. Art Coren is staying at home in Chicago, where he is with the Zenith Electric Company. George Becher and Jim Davidson are using their abilities and knowledge to benefit the Esso Standard Oil Company; George in Linden, N. J., and Jim in Baton Rouge, La.

Rog Griffin is at summer camp at Aberdeen Proving Grounds in Maryland. Art Jacob is at Griffiss Air Base in New York for the summer. Mike Boylan is forsaking Texas for Meadville, Penn. and Talon, Inc. Al Ward is finally breaking away from New England to see how the other half lives. He's moving to Cleveland to begin work with Reliance Electric and Engineering Company. Ed Hair and his wife are in Cincinnati with Procter and Gamble, while Walt Eppler and Paul Shelton are earning their livings at Sperry Gyroscope Corporation on Long Island. Larry Holmes is moving up the Charles to study history at Harvard. Yours truly is biding his time, waiting for September and a year at the University of Marburg in Germany, which is about it for this issue. As I mentioned previously, I hope to contact each of you this summer, but don't hesitate to write me about any bit of news you happen to hear — EDWIN G. EIGEL, JR., Secretary, 3654 Flora Place, St. Louis 10, Mo.

• 1954-G •

The heading above, with its letter G appendage, is not a typographical error. Rather in this issue it is used to call attention to the establishment of a new policy with regard to class affiliation and class news of those Alumni whose affiliation with Technology begins with graduate study. The action of the Executive Committee of the Alumni Association in making more formal recognition of class ties with the ever increasing number of post-baccalaureate Alumni is recorded on page 355 of the May, 1954, issue of The Review, under the title "Graduate Students as Alumni."

The establishment of officers for the senior class as well as for post-baccalaureate graduate students — with the possibility of two distinct sets of class notes for those being graduated in a given year — raises a number of new problems which, perhaps, will be resolved by time alone. For example, magazine production is facilitated by publishing each set of notes from a class secretary under a separate heading, as has been done in this issue, but there is also something to be said in favor of printing all copy from any one class under the numeral heading for that class. The latter procedure requires a certain degree of co-operation between the secretaries involved if editorial and pro-

duction problems are to be avoided. Those having thoughts on these problems are invited to send them to The Review. — Ed.

For a number of years recipients of advanced degrees from the Institute have been included with recipients of bachelor degrees of that year in the records of the M.I.T. Alumni Association. To advance M.I.T. loyalty among graduate students an organization of Graduate Student Classes has been set up within the Alumni Association according to the calendar year of receiving their first advanced degree from M.I.T.

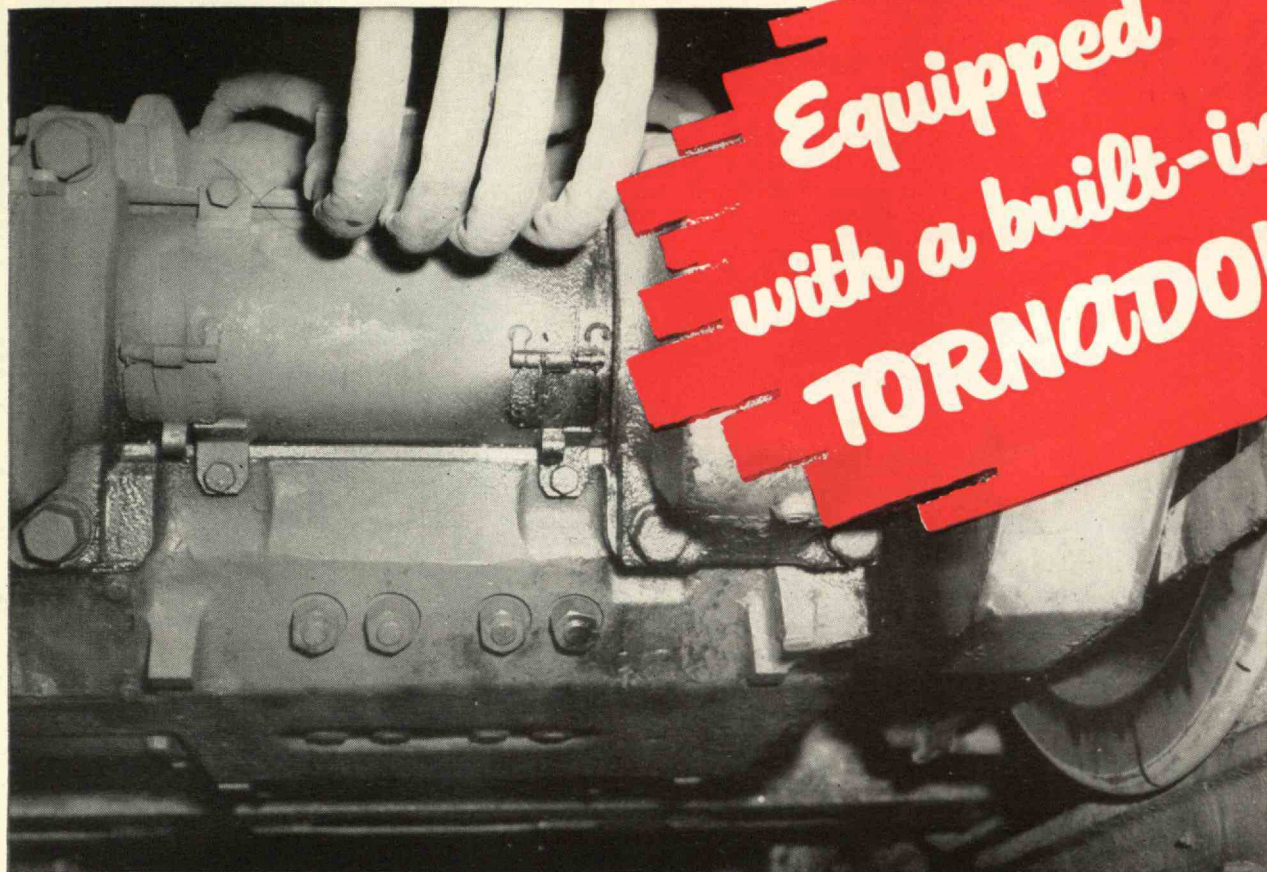
Class officers for the graduate Student Class 1954 were elected by the Graduate Student Council in April, 1954, for the usual period of five years. They are: Nolan T. Jones, Course VI, President; Al Nash, XV, Vice-president; Newton Shanbrom, XVII, Secretary; Bob Lerner, VI, Assistant Secretary; Herman Haus, XV, Treasurer; and Jack Vernon, III, Class Agent.

A graduate school class ring was adopted in September, 1953, by the Graduate Student Council. The ring differs from the undergraduate ring in that the year of graduation on the side of the ring is replaced with the letters M.I.T. or, optionally, the initials of the degree: S.M., Ph.D., and so forth. Former graduate students desiring further information about these rings should write to: Graduate Student Ring Committee, Room 7-103, M.I.T., Cambridge 39, Mass.

Communications among graduate students is a problem! Any and all information regarding the whereabouts, doings, and general happenings of any classmates should be reported in this column in the future. Help in accumulating and channeling information to me, the class Secretary, would be much appreciated. Just drop a line, a postcard or a letter with a few words about yourself to me, any other class officer, or the Alumni Office at M.I.T.

To date I have some information about the plans of a few of us. Nolan Jones is planning to spend this summer in Europe on an Overseas Summer Fellowship, working for the Philips Electric Company in Holland. Hugh Whalen also is headed for Europe in a full time position as an industrial engineer in Sweden. Tom Wallace is going to Parlin, N. J., to work for Du Pont in cost accounting. Bob Keefe is headed out "west" for Ohio to work for a consulting engineer. A number of us are taking temporary employment with Uncle Sam. Chris Gilman expects to be drafted soon; Jack Vernon and Win Hindle expect to go to Newport, R. I., in the Navy. Stan Sydney and I expect to be in the Army very soon, he in the QM, and I in the Corps of Engineers.

In order to get and keep the ball rolling and the information flowing freely, I'd greatly appreciate it if you, all class members, would occasionally drop me a line to keep me posted. — NEWTON SHANBROM, Secretary, 1455 Walton Avenue, Bronx 52, New York. ROBERT LERNER, M.I.T. Graduate House, Cambridge 39, Mass.



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That's the way a traction motor cable might describe a diesel electric locomotive.

The cable gets sand, ice crystals, snow, water, dirt and debris blasted at it by train suction. The cable is subject to constant vibration and swaying in extremes of temperature both summer and winter.

No wonder, then, that those concerned with diesel locomotive availability insist on the highest quality cable available. That's why the sales curve for Simplex Diesel Locomotive and

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Simplex Diesel Locomotive Cables are made to keep locomotives on the road earning money, not in the shop being rewired. If you have any doubt about the ability of your present cable to "take it," try Simplex Diesel Locomotive Cables. You will be surprised and pleased with the service you get from them.

Want to know more about these tough, rugged cables? Your Simplex representative will be glad to tell you about them.

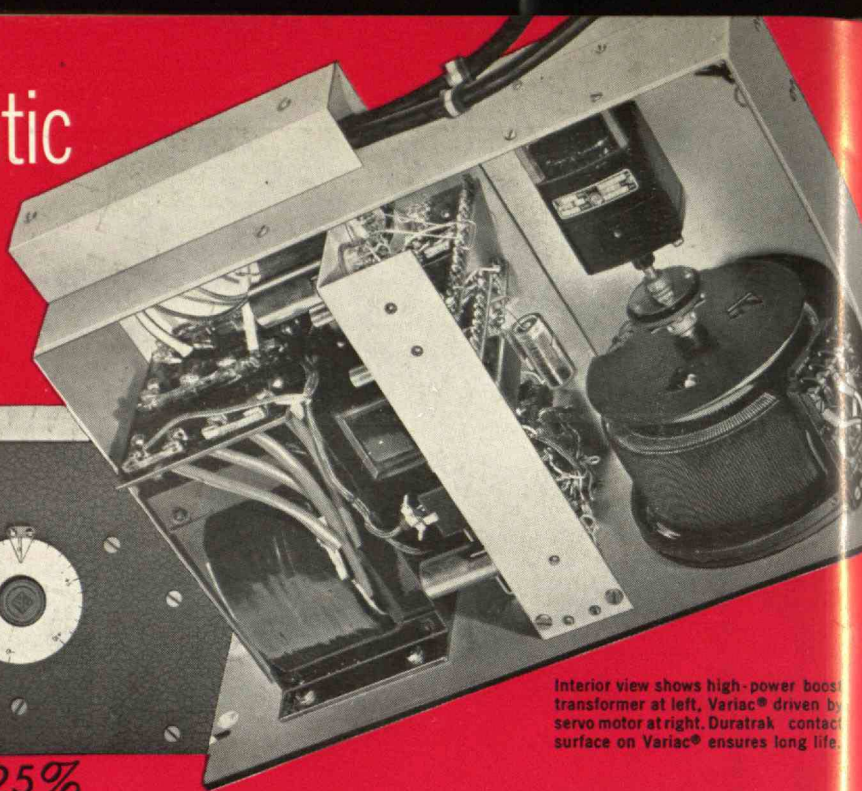
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NEW Automatic Voltage Regulator



Interior view shows high-power boost transformer at left, Variac® driven by servo motor at right. Duratrak® contact surface on Variac® ensures long life.

**Output Constant to $\pm 0.25\%$
Extra Fast Response: 0.1 sec. per volt
Handles up to 6 KVA**

For a Detailed Description of this New Instrument, write for the July Issue of the General Radio Experimenter

The Type 1570-A Automatic Voltage Regulator combines *Accuracy* for laboratory use with *High Power-Handling Capacity* for control of industrial processes.

The application of proportional-control servo-mechanisms to voltage regulator design has resulted in a unique, highly-efficient instrument which should prove of considerable value to those requiring constant a-c line voltage.

This Regulator consists essentially of a Variac® continuously-adjustable autotransformer, a servo-

mechanism sensing circuit which samples the output voltage, and a servo-motor which varies the Variac to correct for input line-voltage changes. This instrument is rugged, requires minimum maintenance, — the G-R trademark guarantees it's been *engineered and built right*.

Features you get with the 115-volt, 60-cycle Automatic Voltage Regulator . . .

SPEED This instrument does things in fractions of a second — response is 10 volts per second

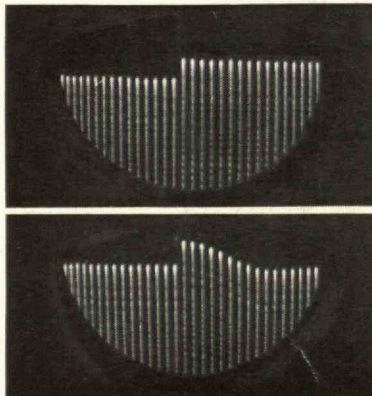
HIGH ACCURACY Output held constant to within $\pm 0.25\%$ of voltage selected

$\pm 10\%$ SELECTION IN OUTPUT VOLTAGE Output may be set for any desired value from 104 to 127 volts

CORRECTS LINE VOLTAGE FLUCTUATIONS OVER WIDE RANGE $\pm 10\%$ of selected output voltage, $\pm 20\%$ or $\pm 40\%$ at reduced accuracy and power rating

HIGH POWER Handles 50-amps (6 KVA)

EXCELLENT TRANSIENT RESPONSE Adjustments permit setting response characteristic desired — adjustable for no overshoot (see oscillograms)



Oscillograms illustrate high-speed response of typical G-R Automatic Voltage Regulator. Illustrated at top, is sudden 1% change in 60-cycle voltage input to Regulator. Bottom oscillogram shows instrument correcting for this change in 8 cycles (0.13 seconds)

ADDS NO HARMONIC DISTORTION Unlike most saturable-core reactors

SUPPLIES ANY LOAD No restrictions on power factor

EFFICIENCY Better than 98%

VOLTAGE CORRECTION INDICATED Panel dial provides continuous indication

USEFUL FOR CONTROL OF THREE-PHASE POWER three of these instruments in conjunction will control both amplitude and phase of three-phase systems

WEIGHT 55 lbs **DIMENSIONS** 19" x 7" x 12 7/8"

Type 1570-A Automatic Voltage Regulator . . . supplied in either 115-v or 230-v model

Type 1570-ALM (115v) Table-Top \$470.

Type 1570-AHM (230v)

Type 1570-ALR (115v) Relay-Rack \$465.

Type 1570-AHR (230v)

We sell direct. Prices shown are NET, f.o.b. Cambridge or W. Concord, Mass.



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